



ML-Based Resume Parsing Solution



TEAMWORK
makes the
DREAM
WORK



About BHSOFT

Bac Ha Software Co., Ltd. (BHSOFT) is a dynamic and fast-moving company in software development and information technology in Vietnam.

Established in 2014, BHSOFT has expanded services to worldwide clients from Europe, America, Singapore, Japan and other countries. BHSOFT provides the optimum solution that consistently meets customers' needs and applies the latest technologies on customers' projects to make them the best application.

“A brick to build your goals!”



Overview

1

Situation

An era marked by a **deluge of job applicants** and **increasingly diversified resume formats** poses a significant challenge for human resources and talent acquisition teams.

2

Complications

Manual screening is **overwhelming, time-consuming, and inconsistent**.

3

Question

How to address these challenges by a **more streamlined and efficient** solution **without compromising accuracy** to transform the way recruitment processes are conducted?

4

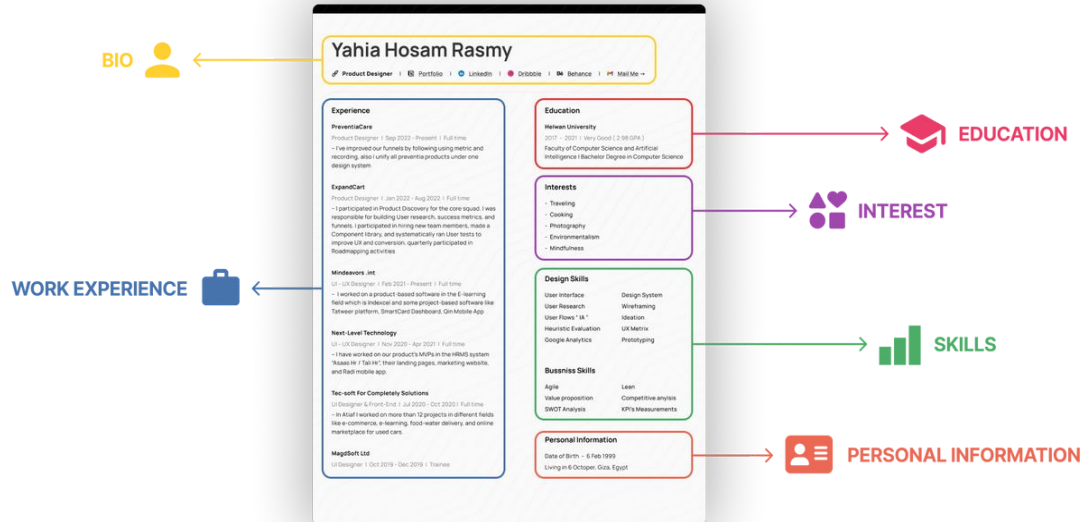
Answer

A Machine Learning approach for Resume Information Extraction.



Our ML-Based Resume Parsing Solution

Detect and extract information from resumes formatted as PDF, DOC and DOCX with Machine Learning Model.





Technology

Pre-trained NLP models

BERT models

Tools

Natural Language Toolkit
(NLTK), spaCy library

Programming languages

Python

Machine learning

BERT, SpaCy, N-gram, Context learning

Technique

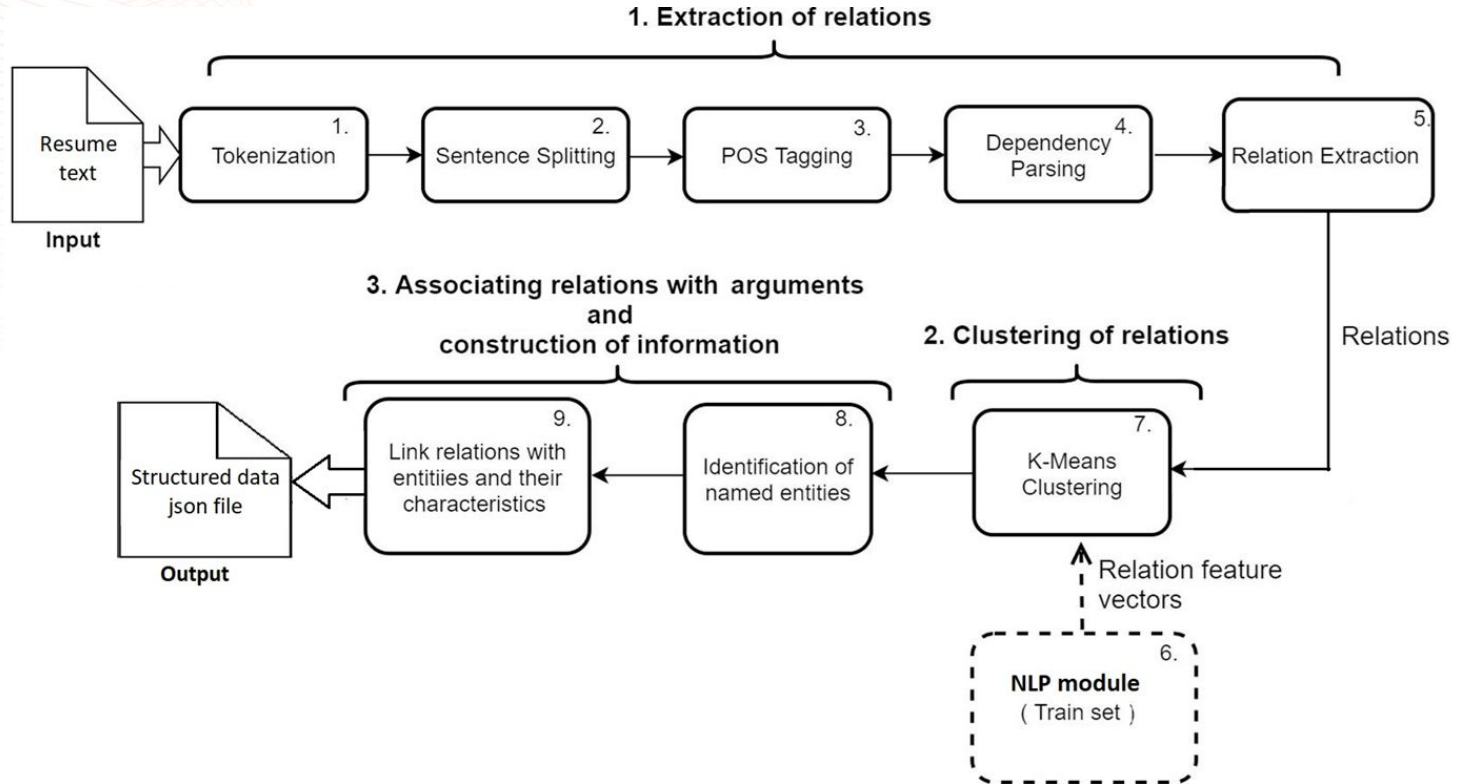
OCR (Optical Character Recognition)

Team size & Duration

Team size	2 AI Developers
Duration	12 months



Methodology





Working Phases

Preprocessing

Clean and preprocess text data to remove any irrelevant or unnecessary information

Text Segmentation

Divide the text into smaller segments

NER

Identify and extract key entities from the text

POS Tagging

Identify parts of speech in the text and determine the role that each word plays in the sentence

Regex-Based Data Extraction

Extract relevant information from the text

Custom Data Extraction

Extract specific information from the text using custom rules and algorithms

Data Validation

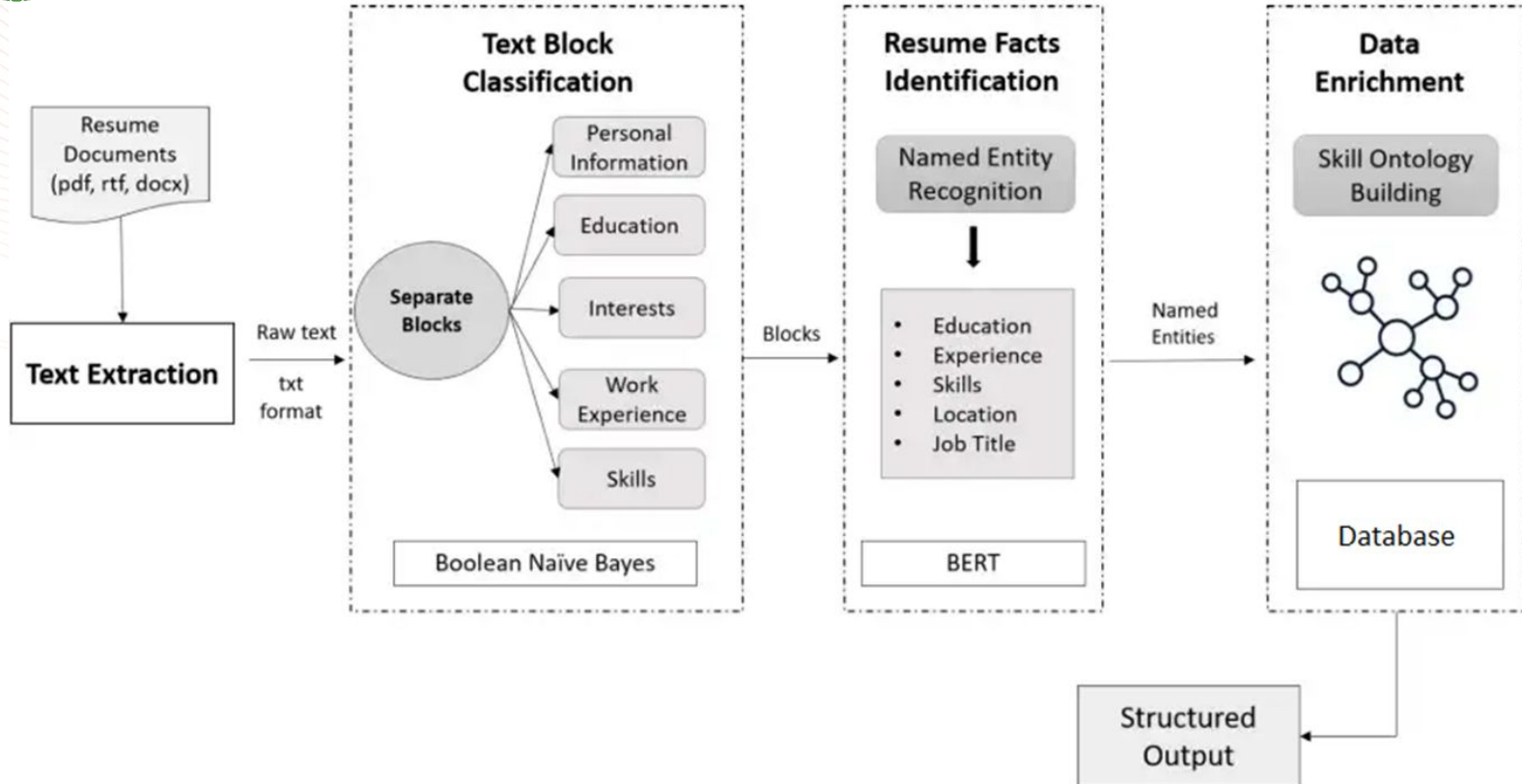
Validate the extracted data to ensure that it is accurate and complete

Integration

Integrate the extracted data into existing database or information system



Technical Details





Samples

1

Converted to .txt format

2

Output to raw json

3

Output to final json

4

Final output integrated with an ATS



Original resume

Christa Prosacco

4132 S Tamiami Trail, Sarasota, Florida 34231
(941) 922-5196 christaprosacco@gmail.com

Professional Summary

- Seasoned Project Control Manager with over 10 years of experience leading project execution strategy and delivery in the oil & gas, biopharma, and chemical industries.
- Core member of project leadership teams accountable for aligning execution with project goals, corporate guidelines, and client needs.
- Successfully executed major capital projects including biopharmaceutical production facilities, oil refinery expansions, chemical plant construction, midstream pipeline infrastructure, and storage facilities.

Qualifications

Education

- University Technology of Chemistry
BSc (Hons) Chemical Engineering, 2011

Skills

- Primavera, P6 Risk Analysis, Smart Plant/Navis and Milestone Pro

Languages

- English, Mandarin

Professional Experience

EYT PRIVATE LIMITED

(2019-2023)

Project Control & Risk Manager

- Developed and oversaw Global Project Reporting (GPR) aligned with corporate KPIs to provide executive leadership with data-driven project health assessments.
- Established comprehensive project controls and risk management frameworks encompassing workflows, tools, scheduling, progress tracking, budgeting, resourcing, KPI dashboards, risk registers, and status reporting. Ensured adherence to corporate project execution standards, priorities, and client needs.

- Monitored project schedule and cost performance closely against approved baselines and contingency budgets using Earned Value, CPM, and risk analysis techniques. Identified threats to major milestones and incentive goals early to enable corrective actions.
- Led staffing plans for project controls team and mentored junior team members. Developed core project control competencies within the organization.

FSTR ENERGY LIMITED

(2015-2019)

Lead Planning Engineer

- Established frameworks and managed all key Front End Engineering Design (FEED) deliverables including schedule, procedures, planning tools, performance metrics, monitoring, and reporting.
- Identified critical path priorities and aligned closely with project team to support execution needs.
- Ensured FEED progress reporting complied with project standards and procedures.
- Developed detailed FEED execution schedule, lookahead plans, manpower forecasts, productivity trends, critical path analysis, and periodic progress reporting.

FSTR OVERSEA OPERATION LIMITED

(2011-2015)

Lead Planning Engineer

- Conducted rigorous schedule risk analysis to identify threats and implemented targeted risk response controls.
- Implemented planning systems and tools aligned with project execution procedures.
- Identified schedule critical paths to prioritize activities and enable agile response from project teams during construction.
- Ensured integrity of performance reporting to support data-driven management decision making.
- Developed detailed construction schedules, lookahead plans, manpower forecasts, productivity analysis, risk assessments, progress reporting, and sponsor reviews.

Additional Information

Social Media

- www.linkedin.com/in/chris-ta-pro-sacco-4533121

Nationality

- American, citizen

Hobbies

- Cooking, sewing, reading

Expected Salary: USD15K per month



Converted to .txt format

```
1 |Christa Prosacco
2 |4132 S Tamiami Trail, Sarasota, Florida 34231
3 |(941) 922-5196 christaprosacco@gmail.com
4 |
5 |Professional Summary
6 |Seasoned Project Control Manager with over 10 years of experience leading project execution strategy and
7 |delivery in the oil & gas, biopharma, and chemical industries
8 |Core member of project leadership teams accountable for aligning execution with project goals, corporate
9 |guidelines, and client needs
10|Successfully executed major capital projects including biopharmaceutical production facilities, oil refinery
11|expansions, chemical plant construction, midstream pipeline infrastructure, and storage facilities.
12|
13|Qualifications
14|Education
15|University Technology of Chemistry
16|
17|BSc (Hons) Chemical Engineering, 2011
18|
19|
20|Skill
21|Primavera, P6 Risk Analysis, Smart Plant/Navis and Milestone Pro
22|
23|
24|Language
25|English, Mandarin
26|
27|Professional Experience
28|EYT PRIVATE LIMITED
29|
30|Project Control & Risk Manager
31|(2019-2023)
32|
33|Developed and oversaw Global Project Reporting (GPR) aligned with corporate KPIs to provide executive leadership
34|with data-driven project health assessments
35|Established comprehensive project controls and risk management frameworks encompassing workflows, tools,
36|scheduling, progress tracking, budgeting, resourcing, KPI dashboards, risk registers, and status reporting. Ensured
37|adherence to corporate project execution standards, priorities, and client needs
38|Monitored project schedule and cost performance closely against approved baselines and contingency budgets
39|using Earned Value, CPM, and risk analysis techniques. Identified threats to major milestones and incentive goals
40|early to enable corrective actions
41|Led staffing plans for project controls team and mentored junior team members. Developed core project control
42|competencies within the organization.
43|FSTR ENERGY LIMITED
44|
45|Lead Planning Engineer
46|(2015-2019)
47|
48|Established frameworks and managed all key Front End Engineering Design (FEED) deliverables including schedule,
49|procedures, planning tools, performance metrics, monitoring, and reporting
50|Identified critical path priorities and aligned closely with project team to support execution needs
51|Ensured FEED progress reporting complied with project standards and procedures
52|Developed detailed FEED execution schedule, lookahead plans, manpower forecasts, productivity trends, critical
53|path analysis, and periodic progress reporting.
54|FSTR OVERSEA OPERATION LIMITED
55|
56|
57|
58|Lead Planning Engineer
59|(2011-2015)
60|
61|Conducted rigorous schedule risk analysis to identify threats and implemented targeted risk response controls
62|Implemented planning systems and tools aligned with project execution procedures
63|Identified schedule critical paths to prioritize activities and enable agile response from project teams during
64|construction
65|Ensured integrity of performance reporting to support data-driven management decision making
66|Developed detailed construction schedules, lookahead plans, manpower forecasts, productivity analysis, risk
67|assessments, progress reporting, and sponsor reviews.
68|
69|Additional Information
70|Social Media
71|www.linkedin.com/in/chris-ta-pro-sacco-4533121
72|
73|
74|Nationalit
75|American, citizen
76|
77|
78|Hobbie
79|Cooking, sewing, reading
80|
81|
82|
83|
84|Expected Salary: USDISK per month
85|
86|
```



Output to raw data json file

```
1 {
2   "Personal Info": {
3     "Text1": "Christa Prosacco",
4     "Text2": "4132 S Tamiami Trail, Sarasota, Florida 34231",
5     "Text3": "(941) 922-5196 christaprosacco@gmail.com",
6     "Text4": ""
7   },
8   "Skill": {
9     "Text1": "Primavera",
10    "Text2": "P6 Risk Analysis",
11    "Text3": "Smart Plant",
12    "Text4": "",
13    "Text5": "Navis",
14    "Text6": "Milestone Pro",
15    "Text7": "",
16    "Text8": "Identified threats to major milestones and ;
17    "Text9": "Identified critical path priorities",
18    "Text10": "Developed detailed",
19    "Text11": "Monitored project schedule and cost perform
20    "Text12": "provide executive leadership",
21    "Text13": "Led staffing plans for project controls tea
22    "Text14": "support execution needs",
23    "Text15": "aligned closely with project team",
24    "Text16": "mentored junior team members",
25    "Text17": "Identified schedule critical paths",
26    "Text18": "Ensured integrity of performance reporting"
27    "Text19": "prioritize activities",
28    "Text20": "identify threats",
29    "Text21": "support data - driven management decision
30    "Text22": "",
31    "Text23": "",
32    "Text24": "",
33    "Text25": ""
34  },
35  "Summary": {
36    "Text1": "Professional Summary.",
37    "Text2": "Seasoned Project Control Manager with over 10 years of experience leading project execution strategy and delivery in the oil & gas, biopharma, and chemical industries ",
38    "Text3": "Core member of project leadership teams accountable for aligning execution with project goals, corporate guidelines, and client needs",
39    "Text4": "Successfully executed major capital projects including biopharmaceutical production facilities, oil refinery expansions, chemical plant construction, midstream pipeline in
40    "Text5": "",
36    "Education & Qualification": {
37      "Text1": "Qualifications:",
38      "Text2": "Education",
39      "Text3": "University Technology of Chemistry",
40      "Text4": "BSc (Hons) Chemical Engineering, 2011",
41      "Text5": "",
42      "Text6": "",
43      "Text7": ""
44    },
45    "Working Experiences": {
46      "Text1": "Professional Experience:",
47      "Text2": "EYT PRIVATE LIMITED ",
48      "Text3": "(2019-2023)",
49      "Text4": "Developed and oversaw Global Project Reporting (GPR) aligned with corporate KPIs to provide executive leadership with data-driven project health assessments ",
50      "Text5": "Established comprehensive project controls and risk management frameworks encompassing workflows, tools, scheduling, progress tracking, budgeting, resourcing, KPI dashboa
51      "Text6": "Monitored project schedule and cost performance closely against approved baselines and contingency budgets using Earned Value, CPM, and risk analysis techniques.",
52      "Text7": "Identified threats to major milestones and incentive goals early to enable corrective actions",
53      "Text8": "Led staffing plans for project controls team and mentored junior team members. Developed core project control competencies within the organization.",
54      "Text9": "FSTR ENERGY LIMITED ",
55      "Text10": "(2015-2019)",
56      "Text11": "Lead Planning Engineer",
57      "Text12": "Established frameworks and managed all key Front End Engineering Design (FEED) deliverables including schedule, procedures, planning tools, performance metrics, monitori
58      "Text13": "Identified critical path priorities and aligned closely with project team to support execution needs",
59      "Text14": "Ensured FEED progress reporting complied with project standards and procedures",
60      "Text15": "Scope definition of project and identifying the execution challenges and provide insight and input in Project execution procedure.",
61      "Text16": "Developed detailed FEED execution schedule, lookahead plans, manpower forecasts, productivity trends, critical path analysis, and periodic progress reporting.",
62      "Text17": "FSTR OVERSEA OPERATION LIMITED",
63      "Text18": "(2011-2015)",
64      "Text19": "Lead Planning Engineer",
65      "Text20": "Conducted rigorous schedule risk analysis to identify threats and implemented targeted risk response controls",
66      "Text21": "Implemented planning systems and tools aligned with project execution procedures",
67      "Text22": "Identified schedule critical paths to prioritize activities and enable agile response from project teams during construction",
68      "Text23": "Ensured integrity of performance reporting to support data-driven management decision making",
69      "Text24": "Developed detailed construction schedules, lookahead plans, manpower forecasts, productivity analysis, risk assessments, progress reporting, and sponsor reviews."
70    }
71  }
72  }
73  }
74  }
75  }
76  }
77  }
78  }
```




Output to semi-structured data json file

```
1  |
2  | "Undefined": {
3  |   "text": ""
4  | },
5  | "Personal Info": {
6  |   "text": "Christa Prossacco\n4132 S Tamiami Trail, Sarasota, Florida 34231\n(941) 922-5196\nchristaprossacco@gmail.com"
7  | },
8  | "Summary": {
9  |   "text": "Professional Summary: \n\nSeasoned Project Control Manager with over 10 years of experience leading project execution strategy and delivery in the oil & gas, biopharma, and
10 |   chemical industries \n\nCore member of project leadership teams accountable for aligning execution with project goals, corporate guidelines, and client needs \n\nSuccessfully executed
11 |   major capital projects including biopharmaceutical production facilities, oil refinery expansions, chemical plant construction, midstream pipeline infrastructure, and storage facilities"
12 | },
13 | "Education & Qualification": {
14 |   "text": "Qualifications:\n\nEducation\n\nUniversity Technology of Chemistry\nBSc (Hons) Chemical Engineering, 2011"
15 | },
16 | "Skill": {
17 |   "text": "Primavera \nP6 Risk Analysis\n Smart Plant\nNavis\n and Milestone Pro\nIdent
18 |   priorities\nDeveloped detailed\nMonitored project schedule and cost performance close
19 |   plans for project controls team\nsupport execution needs\naligned closely with projec
20 |   performance reporting\nprioritize activities\nidentify threats\nsupport data - driven
21 |   },
22 | "Working Experiences": {
23 |   "text": "Professional Experience:\n\nEY PRIVATE LIMITED \n(2019-2023)\n\nDeveloped a
24 |   leadership with data-driven project health assessments \nEstablished comprehensive pr
25 |   tracking, budgeting, resourcing, KPI dashboards, risk registers, and status reporting. Ensured adherence to corporate project execution standards, priorities, and client
26 |   needs\n\nMonitored project schedule and cost performance closely against approved baselines and contingency budgets\nprovide executive leadership\nled staffing
27 |   control competencies within the organization. \n\nFSTR ENERGY LIMITED \n(2015-2019)\n\nLead Planning Engineer\n\nEstablished frameworks and managed all key Front End Engineering Design
28 |   (FEED) deliverables including schedule, procedures, planning tools, performance metrics, monitoring, and reporting \n\nIdentified critical path priorities and aligned closely with
29 |   project team to support execution needs\nEnsured FEED progress reporting complied with project standards and procedures\n\nScope definition of project and identifying the execution
30 |   challenges and provide insight and input in Project execution procedure.\n\nDeveloped detailed FEED execution schedule, lookahead plans, manpower forecasts, productivity trends,
31 |   critical path analysis, and periodic progress reporting.\n\nFSTR OVERSEA OPERATION LIMITED\n(2011-2015)\n\n Lead Planning Engineer\n\n Conducted rigorous schedule risk analysis to
32 |   identify threats and implemented targeted risk response controls\nImplemented planning systems and tools aligned with project execution procedures\nIdentified schedule critical paths to
33 |   making\nDeveloped detailed construction schedules, lookahead plans, manpower forecasts, productivity analysis, risk assessments, progress reporting, and sponsor reviews."
34 | },
35 | "Language speaking": {
36 |   "text": "English, Mandarin"
37 | },
38 | "Social media": {
39 |   "text": "www.linkedin.com/in/chris-ta-pro-sacco-4533121"
40 | },
41 | "Nationality": {
42 |   "text": "American, citizen"
43 | },
44 | "Hobby": {
45 |   "text": "Cooking, sewing, reading"
46 | },
47 | "Undefined": {
48 |   "text": "Expected Salary: USD15K per month"
49 | }
50 | }
```



Output to semi-structured data json file

```
1 {
2   "personalDetailInformation": {
3     "name": "Christa Prosacco",
4     "telNumber": [
5       "+941 9225196"
6     ],
7     "email": [
8       "christaprosacco@gmail.com"
9     ],
10    "personalID": {
11      "nationality": "American",
12      "countryOfResidence": [
13        "Florida"
14      ],
15      "residenceStatus": "citizen"
16    },
17    "others": {
18      "socialMedia": [
19        "www.linkedin.com/in/chris-ta-pro-sacco-4533121"
20      ],
21      "languageSpeaking": [
22        "English",
23        "Mandarin"
24      ]
25    },
26  },
27  "address": {
28    "streetaddress": "4132 S Tamiami Trail, Sarasota, Flor",
29    "postcode": "34231"
30  },
31  "generalInformation": {
32    "avatar": {
33      "personalAvatar": "",
34      "brandName": [],
35      "fileExtension": ""
36    }
37  },
38  "detailedInformation": {
39    "education": {
40      "brief": "Education\n University Technology of Chemistry\nBSc (Hons) Chemical Engineering, 2011",
54    "careerInfo": {
55      "careerSummary": "\n-\tSeasoned Project Control Manager with over 10 years of experience leading project execution strategy and delivery in the oil & gas, biopharma, and chemical in",
56      "employmentHistory": "Professional Experience\nEY PRIVATE LIMITED\n(2019-2023)\nProject Control & Risk Manager\n-\tDeveloped and oversaw Global Project Reporting (GPR) aligned with",
57      "employmentDetailed": [
58        {
59          "periodFrom": "2019",
60          "periodTo": "2023",
61          "company": [
62            "EY PRIVATE LIMITED"
63          ],
64          "position": [
65            "Project Control & Risk Manager"
66          ],
67        },
68        {
69          "periodFrom": "2015",
70          "periodTo": "2019",
71          "company": [
72            "FSTR ENERGY LIMITED"
73          ],
74          "position": [
75            "Lead Planning Engineer"
76          ],
77        },
78        {
79          "periodFrom": "2011",
80          "periodTo": "2015",
81          "company": [
82            "FSTR OVERSEA OPERATION LIMITED"
83          ],
84          "position": [
85            "Lead Planning Engineer"
86          ],
87        },
88      ],
89      "currentLastCompany": "EY PRIVATE LIMITED",
90      "currentLastPosition": "Project Control & Risk Manage",
91      "periodFrom": "2019",
92      "periodTo": "2023",
93    },
94    "salary": 15000,
95    "unit": "USD",
96    "freq": "3",
97    "isExpRmsNegotiable": false
98  },
99  },
100 },
101 "skill": {
102   "Hard_skill": [
103     "Primavera",
104     "P6 Risk Analysis",
105     "Smart Plant",
106     "Navis",
107     "Milestone Pro"
108   ],
109   "Soft_skill": [
110     "Identified threats to major milestones and incentive goals",
111     "Identified critical path priorities",
112     "Developed detailed",
113     "Monitored project schedule and cost performance closely against approved baselines and contingency budgets",
114     "provide executive leadership",
115     "Led staffing plans for project controls team",
116     "support execution needs",
117     "aligned closely with project team",
118     "mentored junior team members",
119     "Identified schedule critical paths",
120     "Ensured integrity of performance reporting",
121     "prioritize activities",
122     "identify threats",
123     "support data - driven management decision making"
124   ]
125 },
126 "otherInformation": {
127   "hobbiesAndInterest": [
128     "Cooking, sewing, reading"
129   ]
130 },
131 },
132 "sector": [
133   "Construction",
```



Final output integrated with an ATS

Christa Prossaco

4132 S Tamiami Trail, Sarasota, Florida 34231
(941) 922-5196 christaprossacco@gmail.com

Professional Summary

- Seasoned Project Control Manager with over 10 years of experience leading project execution strategy and delivery in the oil & gas, biopharma, and chemical industries.
- Core member of project leadership teams accountable for aligning execution with project goals, corporate guidelines, and client needs.
- Successfully executed major capital projects including biopharmaceutical production facilities, oil refinery expansions, chemical plant construction, midstream pipeline infrastructure, and storage facilities.

Qualifications

- Education**
- University Technology of Chemistry (BSc (Hons)) Chemical Engineering, 2011
- Skills**
- Primavera, P6 Risk Analysis, Smart Plant/Navis and Milestone Pro
- Languages**
- English, Mandarin

Professional Experience

EYT PRIVATE LIMITED (2019-2023)
Project Control & Risk Manager

- Developed and oversaw Global Project Reporting (GPR) aligned with corporate KPIs to provide executive leadership with data-driven project health assessments.
- Established comprehensive project controls and risk management frameworks encompassing workflows, tools, scheduling, progress tracking, budgeting, resourcing, KPI dashboards, risk registers, and status reporting. Ensured adherence to corporate project execution standards, priorities, and client needs.
- Monitored project schedule and cost performance closely against approved baselines and contingency budgets using Earned Value, CPM, and risk analysis techniques. Identified threats to major milestones and incentive goals early to enable corrective actions.
- Led staffing plans for project controls team and mentored junior team members. Developed core project control competencies within the organization.

FSTR ENERGY LIMITED (2015-2019)
Lead Planning Engineer

- Established frameworks and managed all key Front End Engineering Design (FEED) deliverables including schedule, procedures, planning tools, performance metrics, monitoring, and reporting.
- Identified critical path priorities and aligned closely with project team to support execution needs.
- Ensured FEED progress reporting complied with project standards and procedures.

Fields

Name Christa Prossaco
Email christaprossacco@gmail.com
Street address 4132 S Tamiami Trail, Sarasota, Florida
Postal code 34231
Phone number (941) 922-5196
Nationality American
Residential status Citizen
Highest Education Bachelor
Name of institute & location University Technology of Chemistry
Year graduated 2011
Languages English, Mandarin
Skills Primavera, P6 Risk Analysis, Smart Plant, Navis, Milestone Pro
Social media www.linkedin.com/in/chris-ta-pro-sacco-4533121

Hobbies Cooking, sewing, reading
Expected Salary 15000 USD Per Month

- Career summary**
- Seasoned Project Control Manager with over 10 years of experience leading project execution strategy and delivery in the oil & gas, biopharma, and chemical industries.
 - Core member of project leadership teams accountable for aligning execution with project goals, corporate guidelines, and client needs.
 - Successfully executed major capital projects including biopharmaceutical production facilities, oil refinery expansions, chemical plant construction, midstream pipeline infrastructure, and storage facilities.

Period From 2019
Period To 2023
Current/Last Company EYT PRIVATE LIMITED
Current/Last Position Project Control & Risk Manager

- Developed detailed FEED execution schedule, lookahead plans, manpower forecasts, productivity trends, critical path analysis, and periodic progress reporting.

FSTR OVERSEA OPERATION LIMITED (2011-2015)
Lead Planning Engineer

- Conducted rigorous schedule risk analysis to identify threats and implemented targeted risk response controls.
- Implemented planning systems and tools aligned with project execution procedures.
- Identified schedule critical paths to prioritize activities and enable agile response from project teams during construction.
- Ensured integrity of performance reporting to support data-driven management decision making.
- Developed detailed construction schedules, lookahead plans, manpower forecasts, productivity analysis, risk assessments, progress reporting, and sponsor reviews.

Additional Information

Social Media

- www.linkedin.com/in/chris-ta-pro-sacco-4533121

Nationality

- American, Citizen

Hobbies

- Cooking, sewing, reading

Expected Salary: USD15K per month

Employment history
EYT PRIVATE LIMITED (2019-2023)

- Project Control & Risk Manager**
- Developed and oversaw Global Project Reporting (GPR) aligned with corporate KPIs to provide executive leadership with data-driven project health assessments.
 - Established comprehensive project controls and risk management frameworks encompassing workflows, tools, scheduling, progress tracking, budgeting, resourcing, KPI dashboards, risk registers, and status reporting. Ensured adherence to corporate project execution standards, priorities, and client needs.
 - Monitored project schedule and cost performance closely against approved baselines and contingency budgets using Earned Value, CPM, and risk analysis techniques. Identified threats to major milestones and incentive goals early to enable corrective actions.
 - Led staffing plans for project controls team and mentored junior team members. Developed core project control competencies within the organization.

FSTR ENERGY LIMITED (2015-2019)

- Lead Planning Engineer**
- Established frameworks and managed all key Front End Engineering Design (FEED) deliverables including schedule, procedures, planning tools, performance metrics, monitoring, and reporting.
 - Identified critical path priorities and aligned closely with project team to support execution needs.
 - Ensured FEED progress reporting complied with project standards and procedures.
 - Developed detailed FEED execution schedule, lookahead plans, manpower forecasts, productivity trends, critical path analysis, and periodic progress reporting.



Equipment Required

ML Server Hardware Required

Mainboard Intel W480, Socket 1200, ATX, 4 RAM DDR4

CPU Intel Xeon W-1370P (3.6 GHz turbo up to 5.2 GHz, 8 cores 16 threads, 16MB Cache, Comet Lake-S)

RAM 32GB DDR4

SSD 512GB M.2 + HDD 2TB

GPU RTX3090 (24GB GDD6X, 384-BIT, HDMI +DP, 2X8-PIN)



Summary

Advantages

The Machine Learning-powered ATS brings substantial advantages to both employers and job seekers.

- To employer: eliminating human error and significantly reducing administrative burden.
 - To job seeker: information will be efficiently captured and correctly presented to potential employers, enhances consistency and accuracy.
-

Potentials

This solution can be applied beyond HR and recruitment. Its continual learning and improvement make it adaptable to other sectors, improving data extraction and understanding of industry-specific terminology for enhanced data processing and analysis in various fields.



GLEAN - AI Chatbot for Eyecare



Executive Summary



1

Situation

Eye diseases are a global health concern, potentially causing severe complications if **not detected timely**.

2

Complications

Traditional diagnosis methods are often **time-consuming** and **expensive**, hindering access to timely care.

3

Question

How can we **enhance eye disease detection** to mitigate these challenges?

4

Answer

GLEAN - AI Chatbot for Eyecare offers a solution streamlining eye disease detection.



GLEAN - AI Chatbot for Eyecare

Detection and Classification of
Eye Diseases by AI Models and
Computer Vision Algorithms



Technology



Image Processing

- **Library:** OpenCV, Yolo
- **Techniques:** Iris extraction, Segmentation, Feature extraction
- **Environment:** NVIDIA Cuda



Programming

- **Programming Language:** Python
- **Machine Learning:** Supervised, unsupervised and reinforcement learnings



Text Processing (NLP)

- **Pre-trained models:** LLAMA 2
- **Attention Transformer**
- **Techniques:** Text encoding, self/multi-head attention, semantic analysis

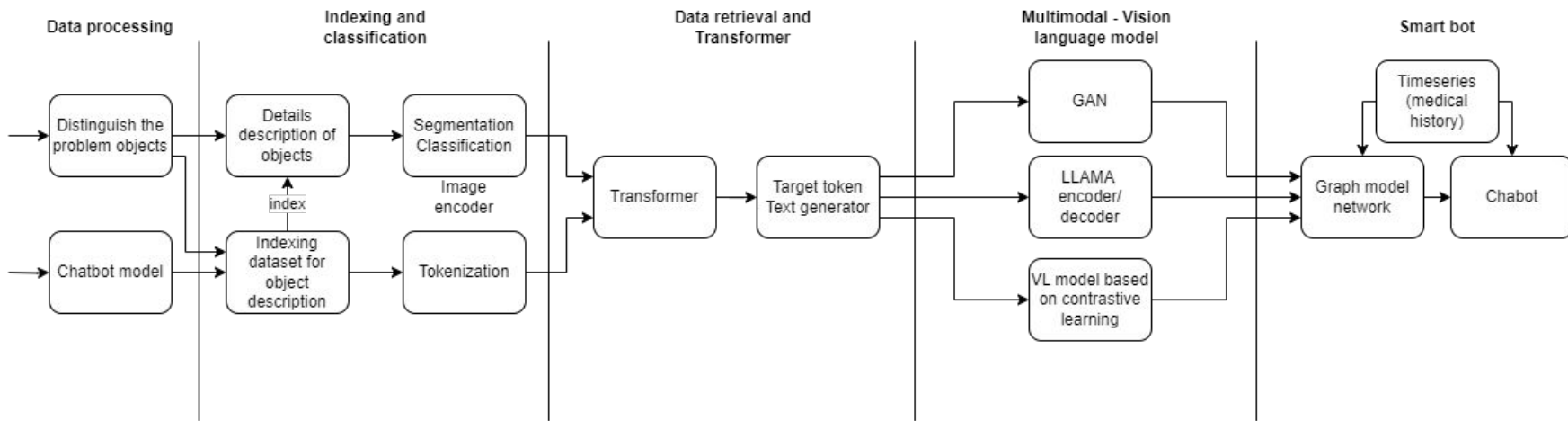


Dev Tools

- **Web tools:** Jupyter, Colab, Huggingface
- **Visual Studio Code IDE**



Stages of Implementation



Team size

03 AI developers

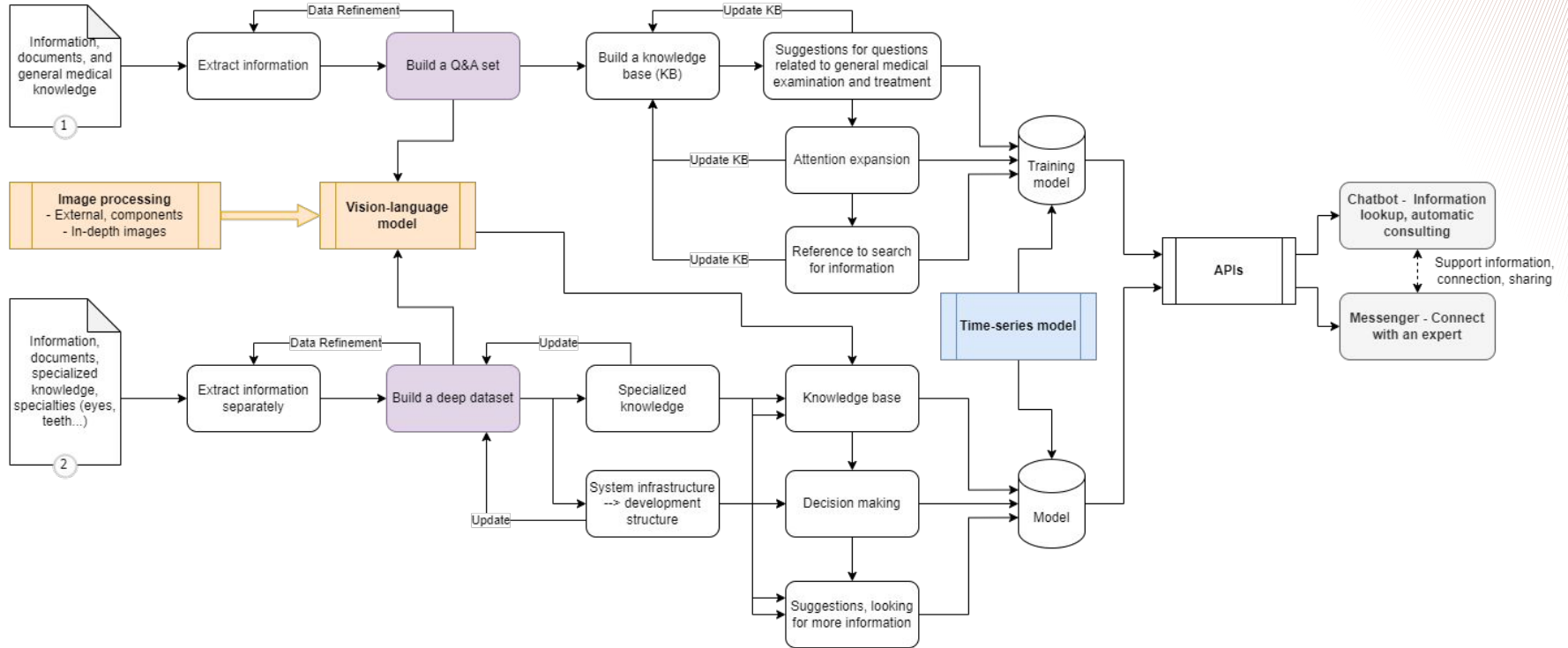


Duration

12 months

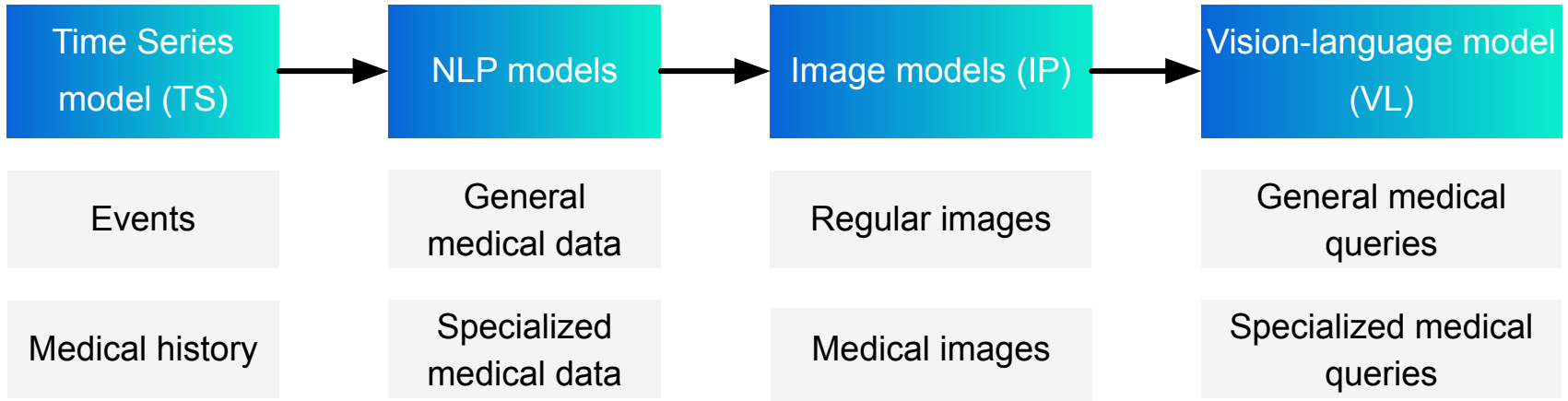


Workflow





Multimodals





Chatbot Features



1

Role-based access

- Patients
- Doctors

The image displays two overlapping screenshots of the GLEAN chatbot interface. The top screenshot shows a doctor's view for 'Võ Văn Nhân', a specialist in Otorhinolaryngology and Head and Neck Surgery. It features a search bar, filter options for date and status, and a table of appointments. The bottom screenshot shows a patient's view for 'Nguyễn Thị Ngọc', including a 'Thêm lịch hẹn' (Add appointment) button and a similar appointment table.

#	Thời gian	Người khám	Số điện thoại	Trạng thái
01	23/08/2023 14:00	Đỗ Hồng Hạnh	034 455 9854	Xác nhận
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
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			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn
			034 455 9854	Chưa tư vấn

#	Thời gian	Bác sĩ	Số điện thoại	Trạng thái
01	23/08/2023 14:00	-	-	Đã đặt lịch
02	23/08/2023 14:00	Đỗ Hồng Hạnh	034 455 9854	Đã xác nhận
03	23/08/2023 14:00	Đỗ Hồng Hạnh	034 455 9854	Đã xác nhận



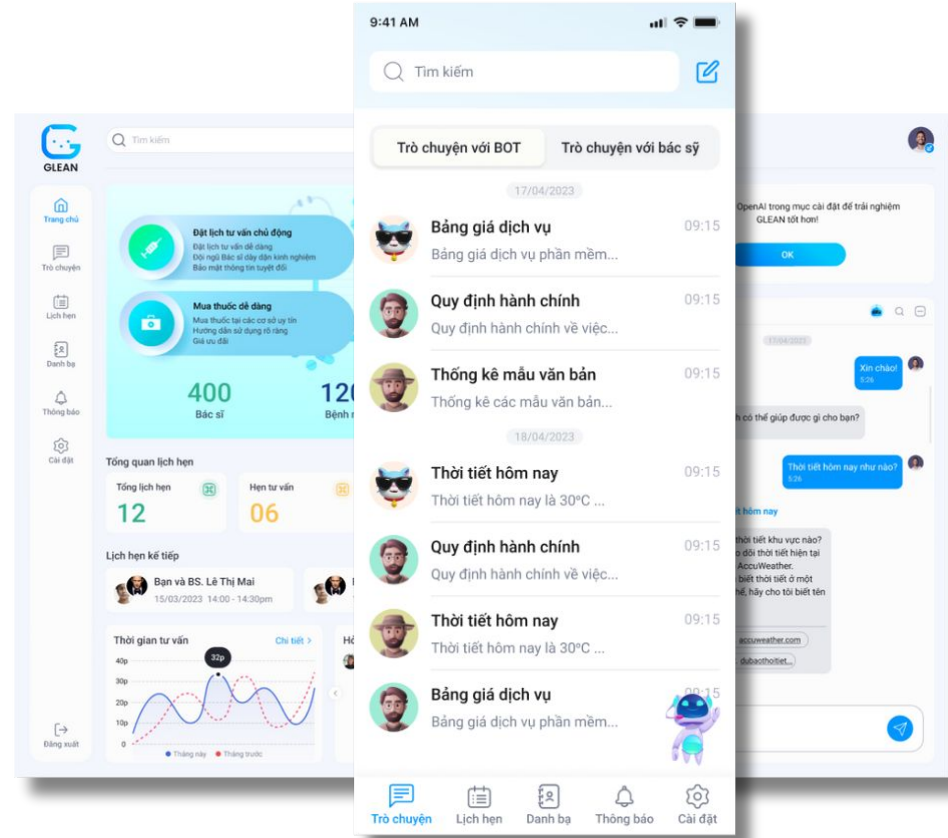
Chatbot Features



2

Messenger

- Chat
- Share chats
- Manage contacts
- Save chat history
- Schedule appointments
- Create groups





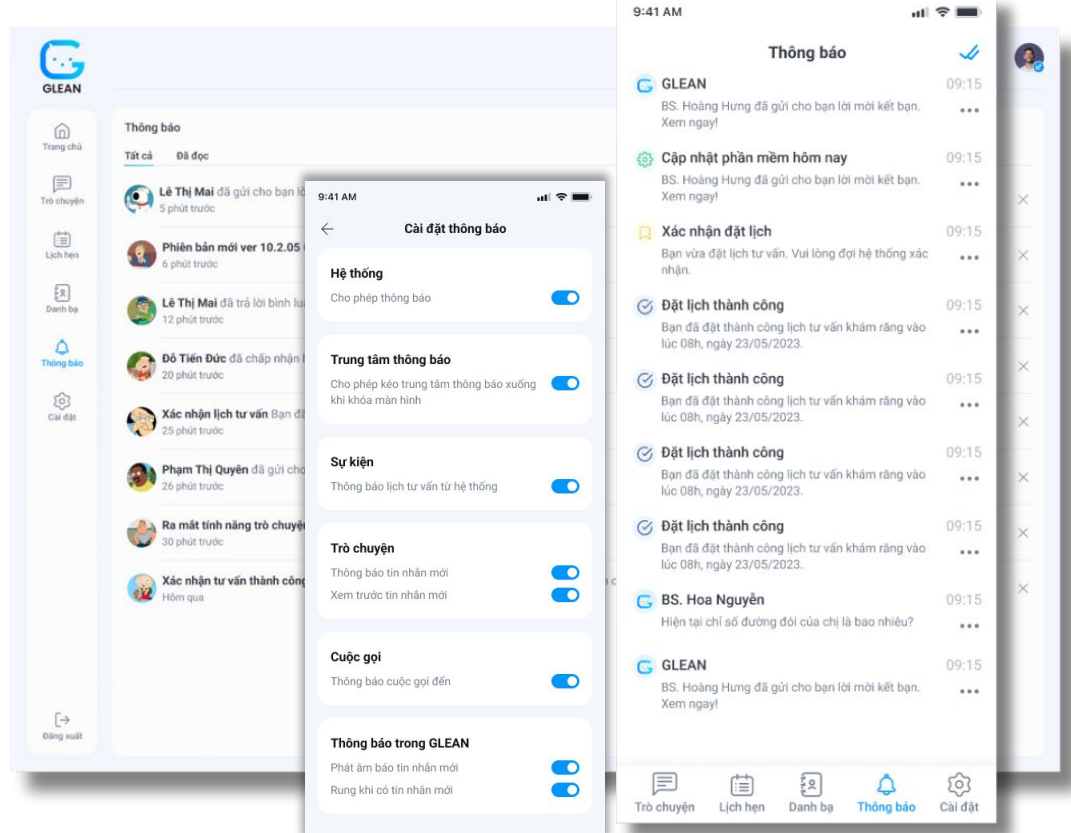
Chatbot Features



3

Notification

- New messages
- Coming calls
- Appointments
- Friend list updates





Chatbot Features



4 Profile management

- Name
- Avatar
- DOB
- Gender
- Email
- Phone number
- Country
- Language

9:41 AM

← Thông tin tài khoản

Họ và tên
Nguyễn Duy Anh

Ngày sinh 12/07/1986 Giới tính Nam

Email
nguyenduyanh678@hotmail.com


Số điện thoại
+84 955 485 678

Quốc gia
Việt Nam

Xác nhận

9:41 AM

Cài đặt


Duy Anh
nguyenduyanh678@hotmail.com

- Thông tin tài khoản >
- Cài đặt thông báo >
- Cài đặt Bot >
- Ngôn ngữ giao diện Tiếng Việt >
- Chế độ tối <input type="checkbox"/>
- Thống kê >
- Trợ giúp >
- Đăng xuất >

Thay đổi ngôn ngữ

Tiếng Việt ✓

Tiếng Anh

9:41 AM

← Thông tin tài khoản

Họ và tên
Nguyễn Duy Anh

Ngày sinh 12/07/1986

Giới tính
Nam

Email
nguyenduyanh678@hotmail.com

Hủy Ngày sinh Xong

04	Tháng 1	1997
05	Tháng 2	1996
06	Tháng 3	1995
07	Tháng 4	1994
08	Tháng 5	1993
09	Tháng 6	1992
10	Tháng 7	1991



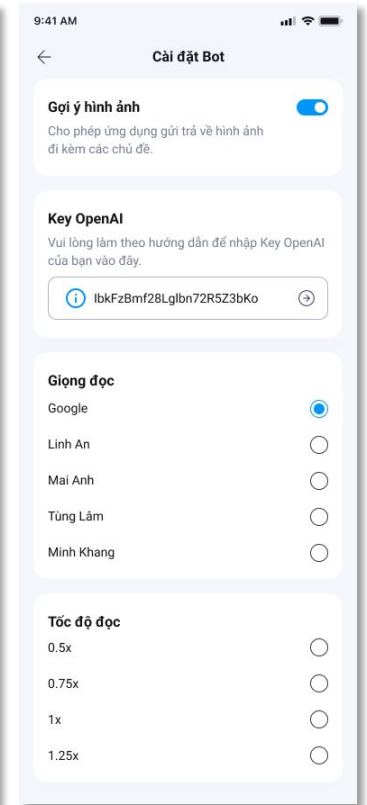
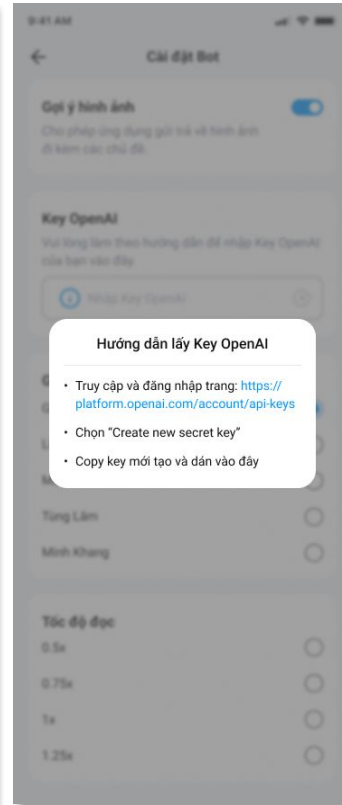
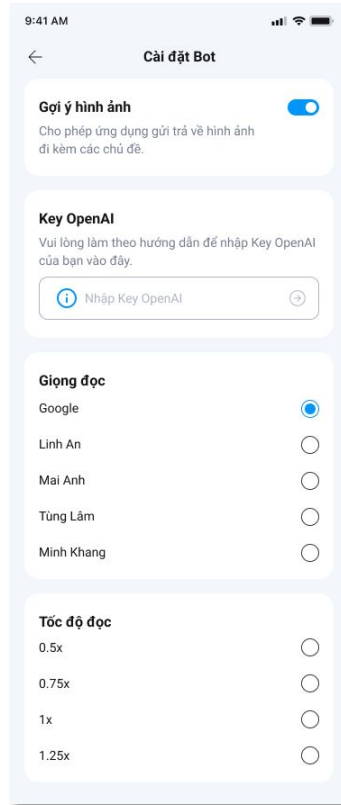
Chatbot Features



5

Bot settings

- Image suggestions
- Reading voice
- Reading speed



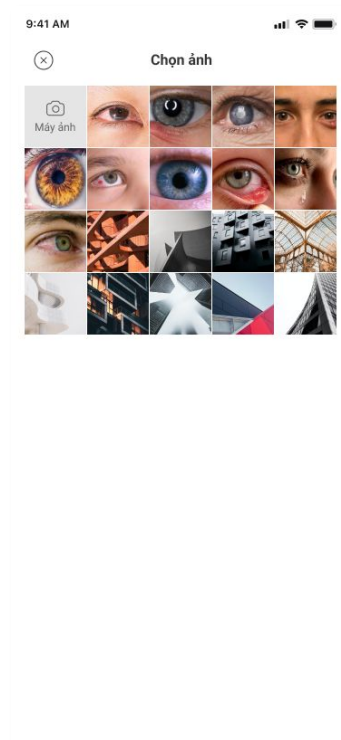
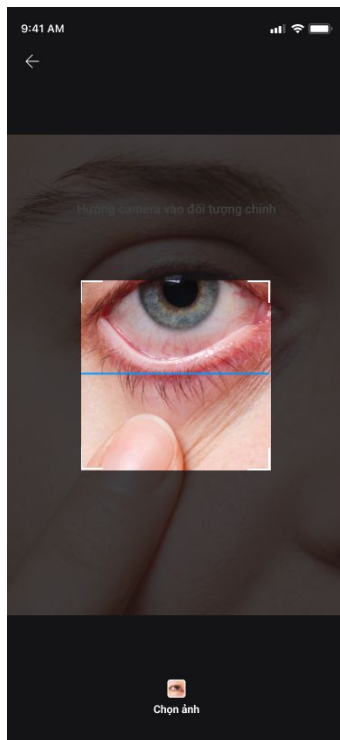


Chatbot Features



5

Image recognition & language processing through images





Equipment Required



ML Server Hardware Required

Mainboard Intel W480, Socket 1200, ATX, 4 RAM DDR4

CPU Intel Xeon W-1370P (3.6 GHz turbo up to 5.2 GHz, 8 cores 16 threads, 16MB Cache, Comet Lake-S)

RAM 32GB DDR4

SSD 512GB M.2 + HDD 2TB

GPU RTX3090 (24GB GDD6X, 384-BIT, HDMI +DP, 2X8-PIN)



Summary



Accessibility

Eye care becomes more accessible with a broad network of doctors.



Efficiency

Timely diagnosis reduce delays in medical treatment.



Accuracy

Machine learning can identify signs of diseases with high accuracy.



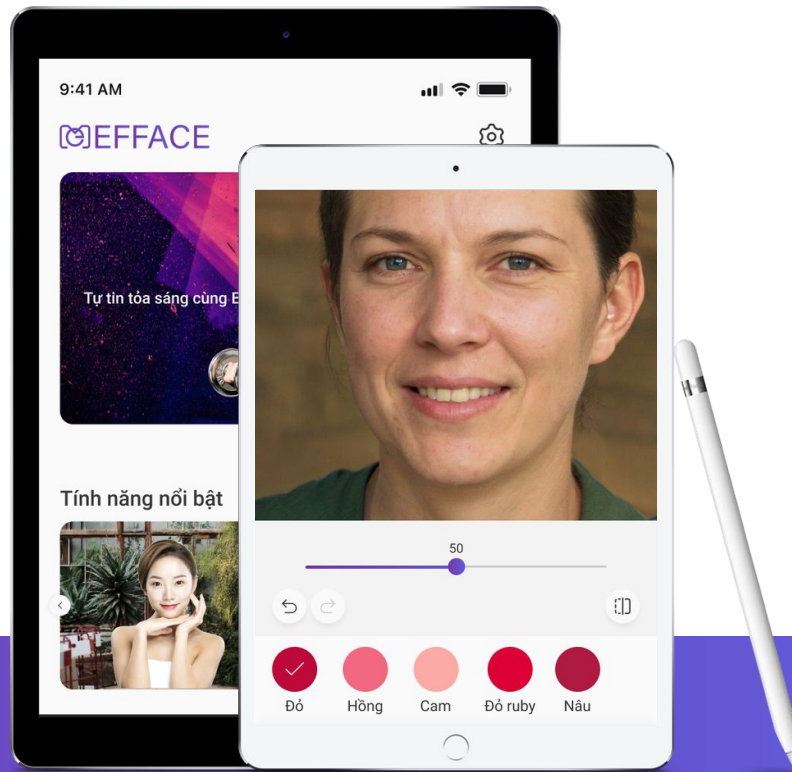
Cost-Effective

Timely diagnosis reduce treatment costs.



EFFACE

- AI Photo Editor





Executive Summary



1

Situation

Photo editing complexity deters users from achieving desired results **quickly** and **without professional knowledge**.

2

Complications

It is crucial to create a user-friendly, **AI-driven** photo editing solution, enabling **creativity**, **saving time**, and ensuring **professional** results.

3

Question

How to develop a **photo editing app** for **simplified**, but also **high-quality** editing?

4

Answer

EFFACE - An intuitive UI and AI-power App for appealing photo editing with creative features, regular updates for AI improvements and user needs.



EFFACE

Automatic Object Removal and Background Replacement with Deep Convolutional Neural Networks and Feature Data Analysis

AI-Powered Perfection at Your Fingertips!





Technology



OpenCV (C++)

TensorFlow (Python)

Inpainting

Generative adversarial networks (GAN)

Graph neural network (GNN)



Team size

04 developers

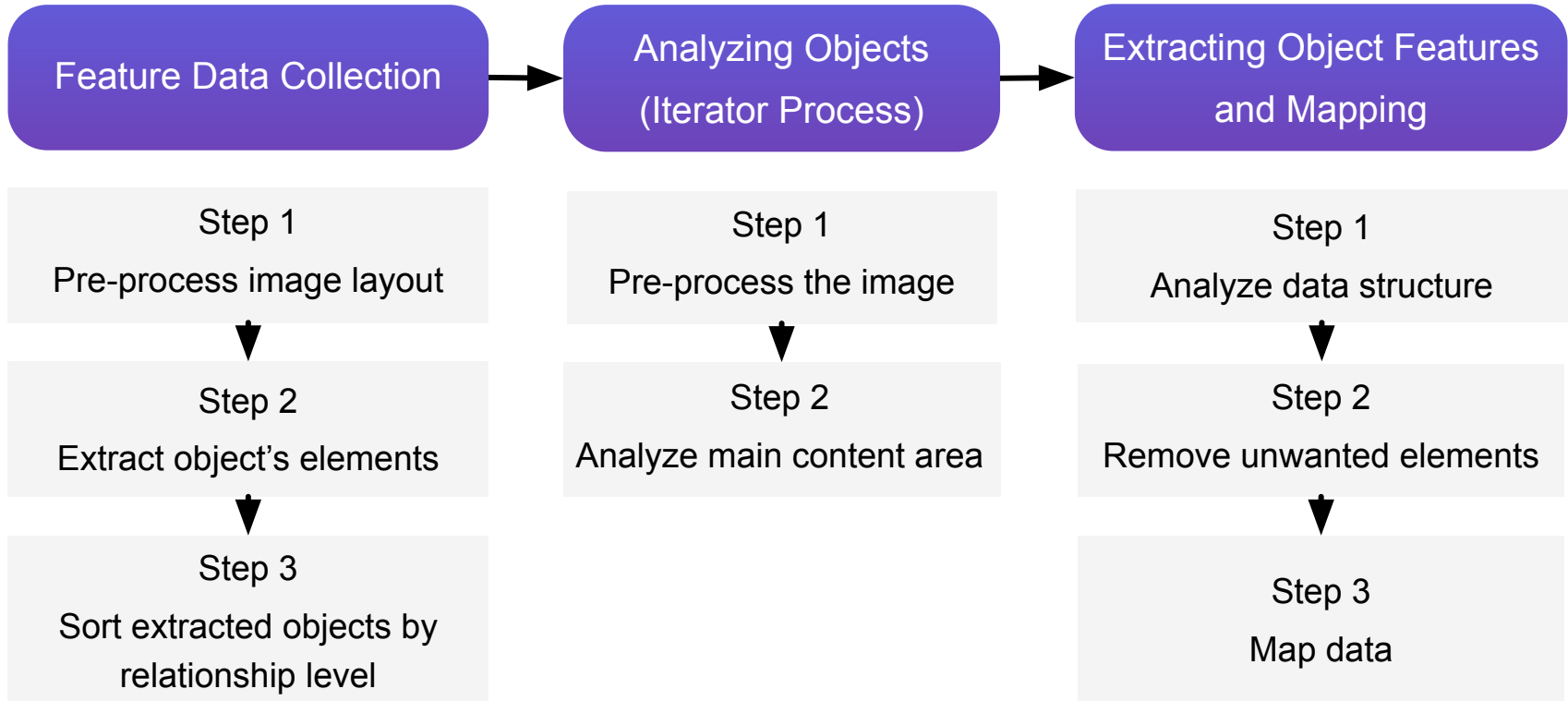


Duration

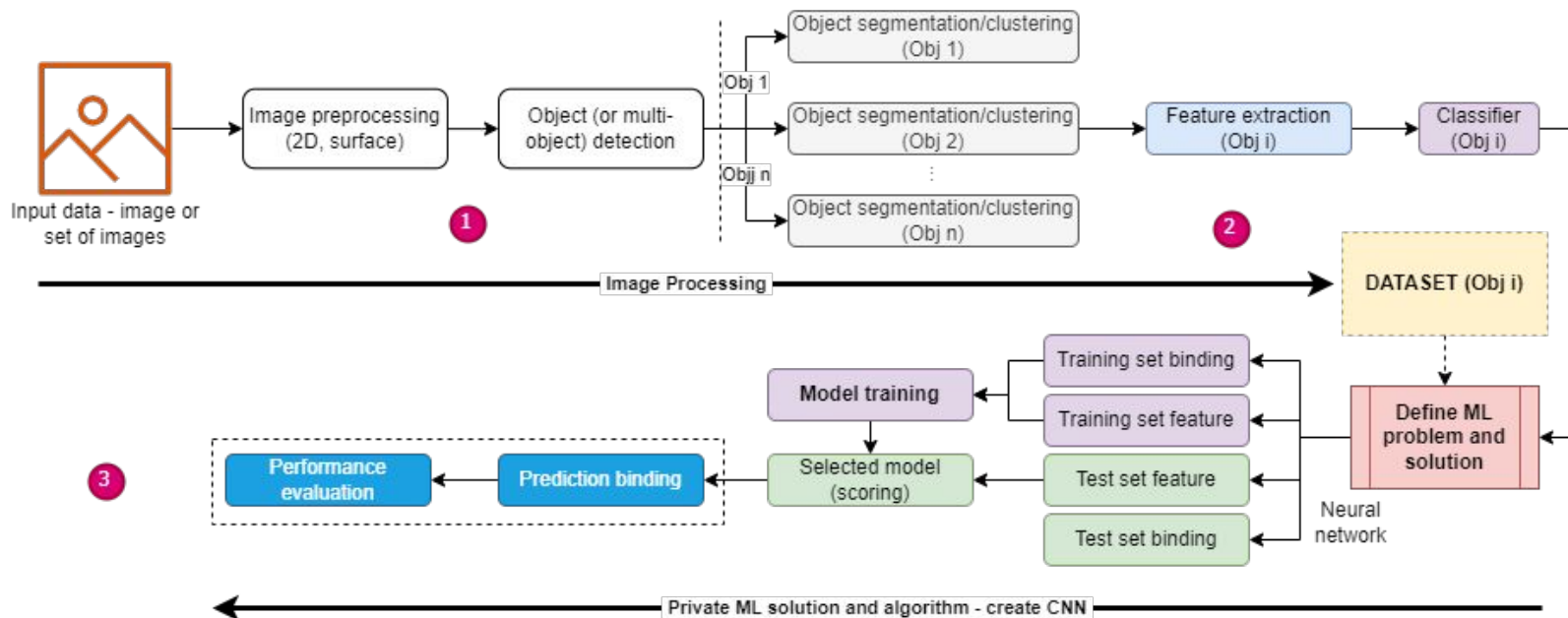
12 months



Methodology

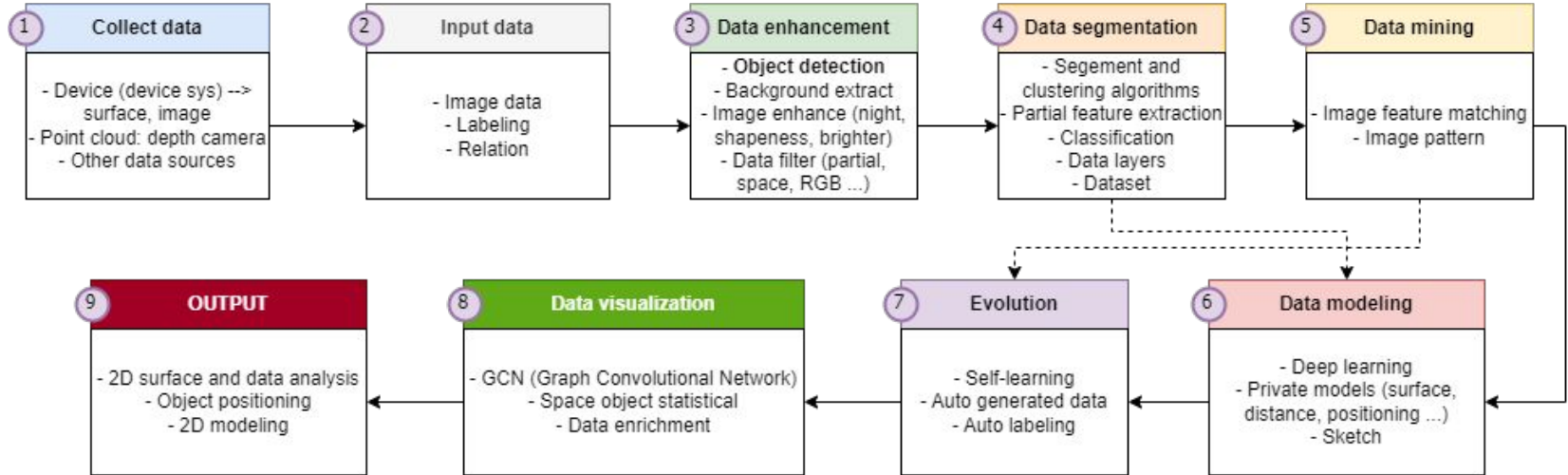


Object Removal Model



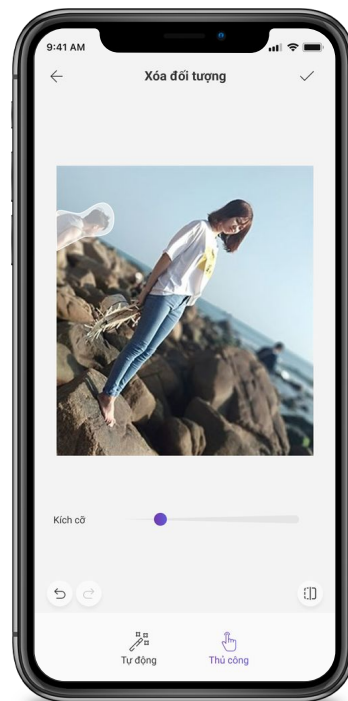
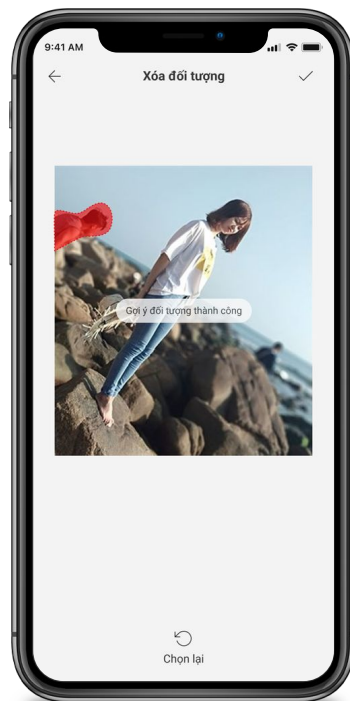
- 1 Identify the general process for image preprocessing, and object identification
- 2 The process of clustering, fragmentation, and individual characteristics of each object (choose the number of characteristic points depending on the goal and solution)
- 3 Machine learning, algorithms, and neural networks are separate for each recognition processing solution for each type of object

Big data analysis flow



1 Object removal

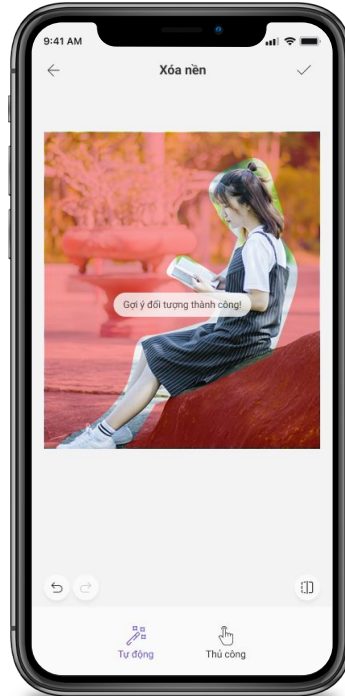
- Automatic
- Manual



2

Background removal

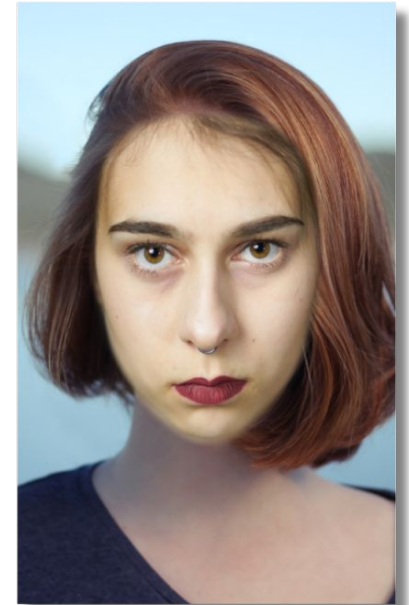
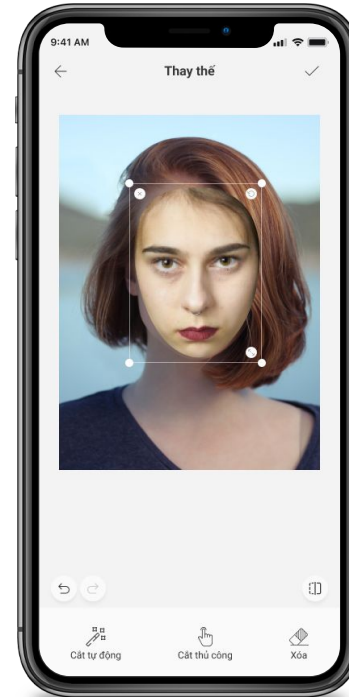
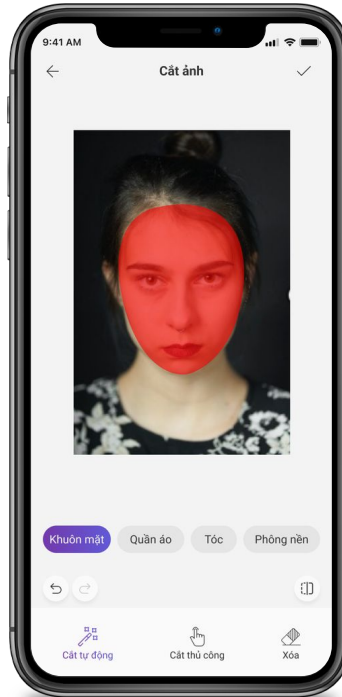
- Automatic
- Manual



3

Face replacement

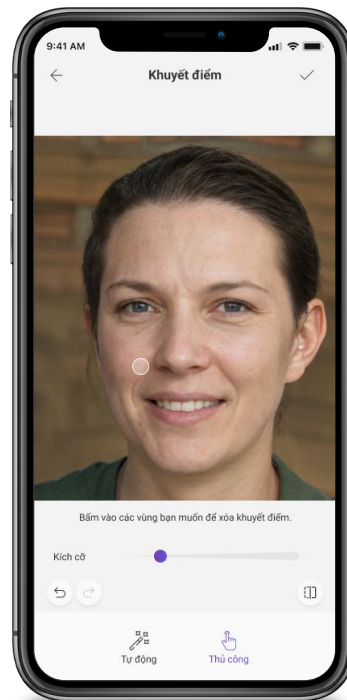
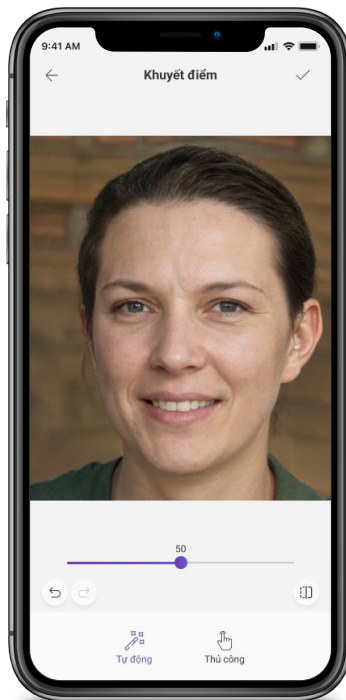
- Automatic
- Manual



4

Face mark removal

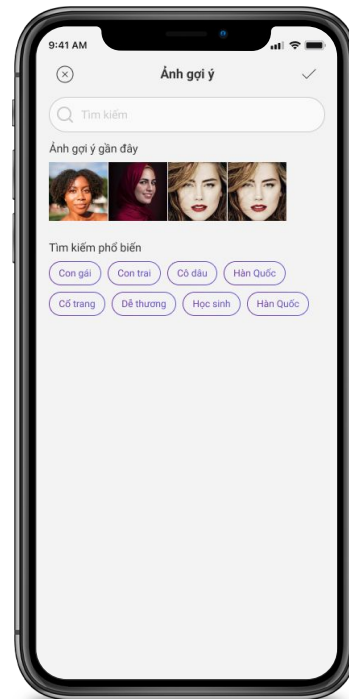
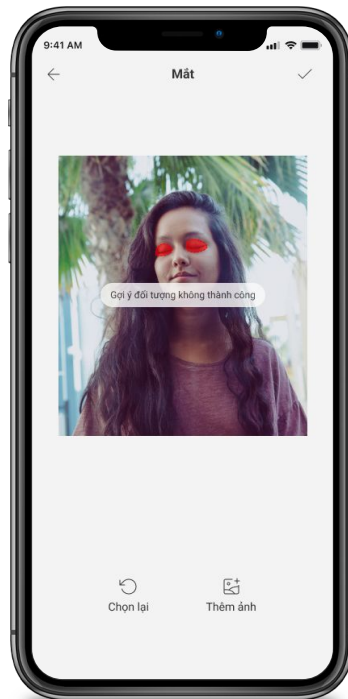
- Automatic
- Manual



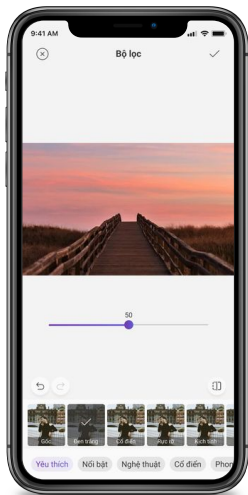
5

Facial feature replacement

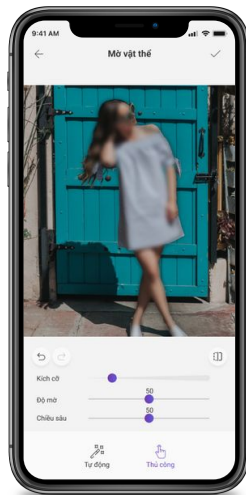
- Automatic
- Manual



6 Other features



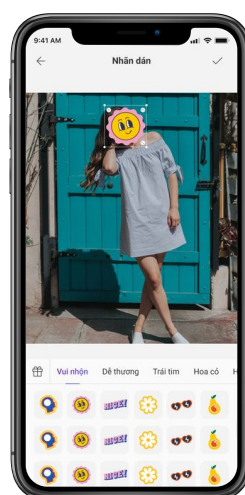
Filtering



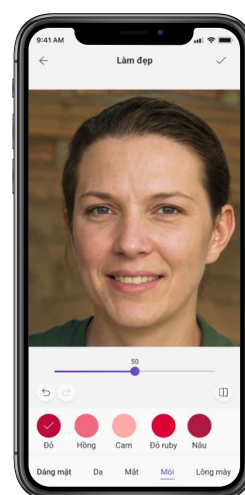
Object blur



Collage



Stickers



Face retouching

and more...



Equipment Required



ML Server Hardware Required

Mainboard Intel W480, Socket 1200, ATX, 4 RAM DDR4

CPU Intel Xeon W-1370P (3.6 GHz turbo up to 5.2 GHz, 8 cores 16 threads, 16MB Cache, Comet Lake-S)

RAM 32GB DDR4

SSD 512GB M.2 + HDD 2TB

GPU RTX3090 (24GB GDD6X, 384-BIT, HDMI +DP, 2X8-PIN)



Quality Enhancement

Enhancing photos in only one click, instantly make blurry photos clear.



Simplified Editing

Emphasis on a straightforward UX, ensuring users can navigate without complexity.



Time and Effort Savings

Aims to streamline editing process, saving users time and reducing manual effort.



Creative Freedom

Promotes unlimited creativity, enabling users to craft visually appealing images.

Summary



MYOPIA

- AR Camera 3D Solution





Executive Summary

1

Situation

To identify suitable positions in physical space, people need to repeatedly move objects around, leading to **difficulties** in the process of **relocation and organization**.

2

Complications

When applying AR technology, challenges are **uncertainties, hardware limitations, user adaptability issues**, and the **integration of virtual elements into real-world environments**.

3

Question

How to **address the complexities** associated with virtually reconstructing space and objects in real-world environments?

4

Answer

MYOPIA – AR Camera 3D solution offering a seamless and effective user experience, contributing to the **successful integration into diverse environments**.



MYOPIA

- AR Camera 3D Solution

- BHSOFT has developed an Augmented Reality (AR) camera view application for both Android and iOS.
- Using the mobile app, users can take AR 3D objects from the library then drag and drop selected objects to a position in the room view.



Technology



Computer Vision & Image Processing

- TensorFlow
- PyTorch3D
- Keras
- COLMAP
- Marching Tetrahedra
- DMTet



Mobile Development

- Kotlin (for Android)
- Swift for (iOS)



Data Science Platform

- Anaconda



GPU Programming & Deep Learning Frameworks

- NVIDIA CUDA
- NVIDIA Instant NeRFs
- MeshLab



Database

- SQLite



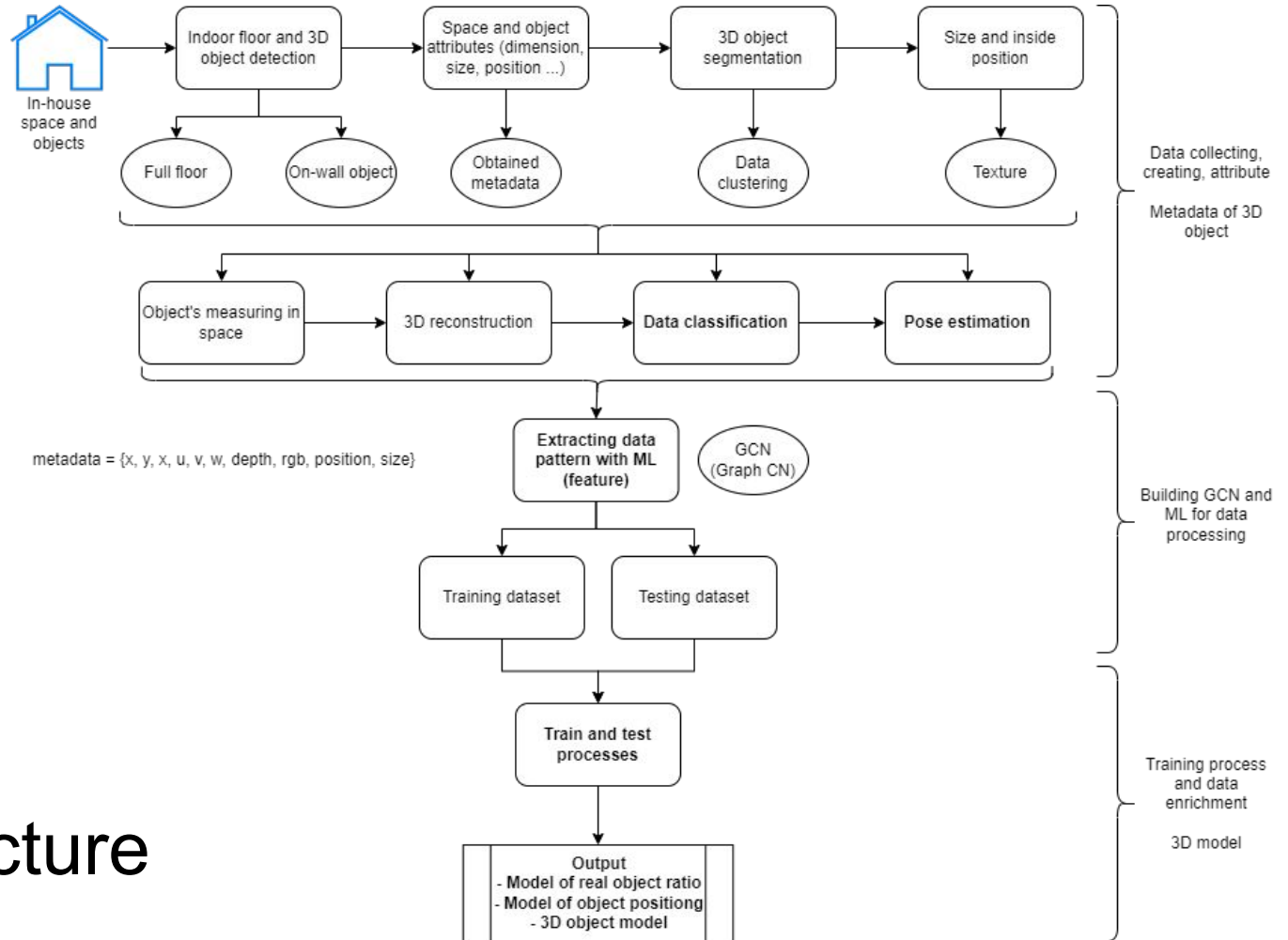
Team size

03 developers



Duration

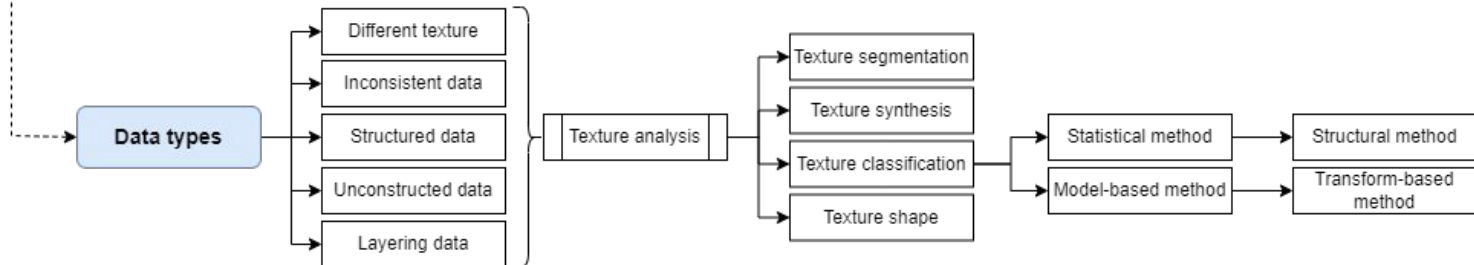
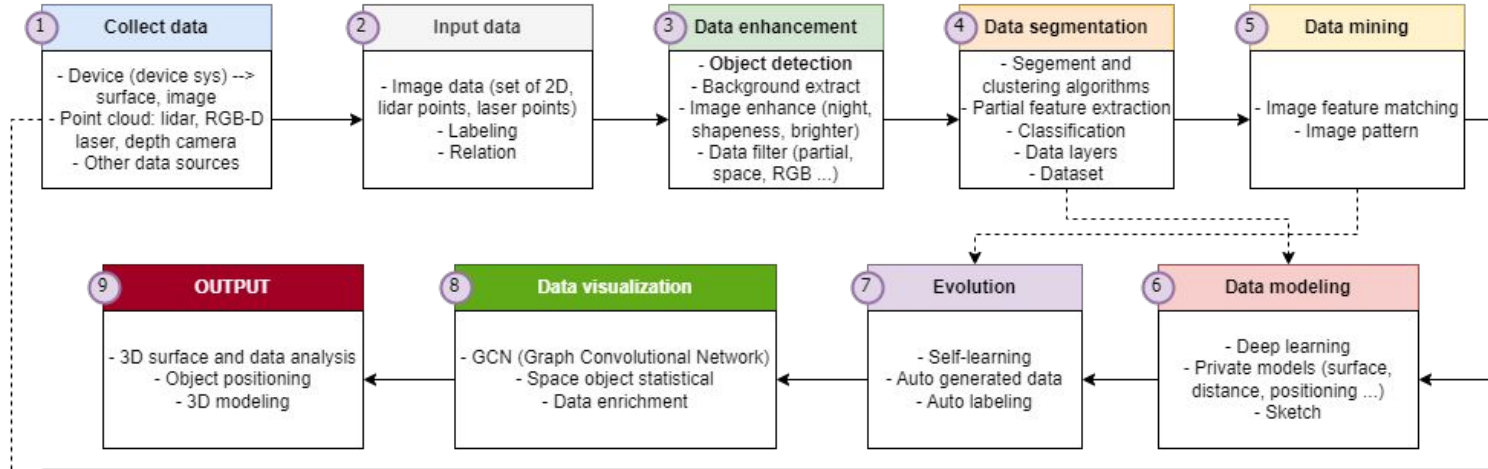
12 months



Basic Structure

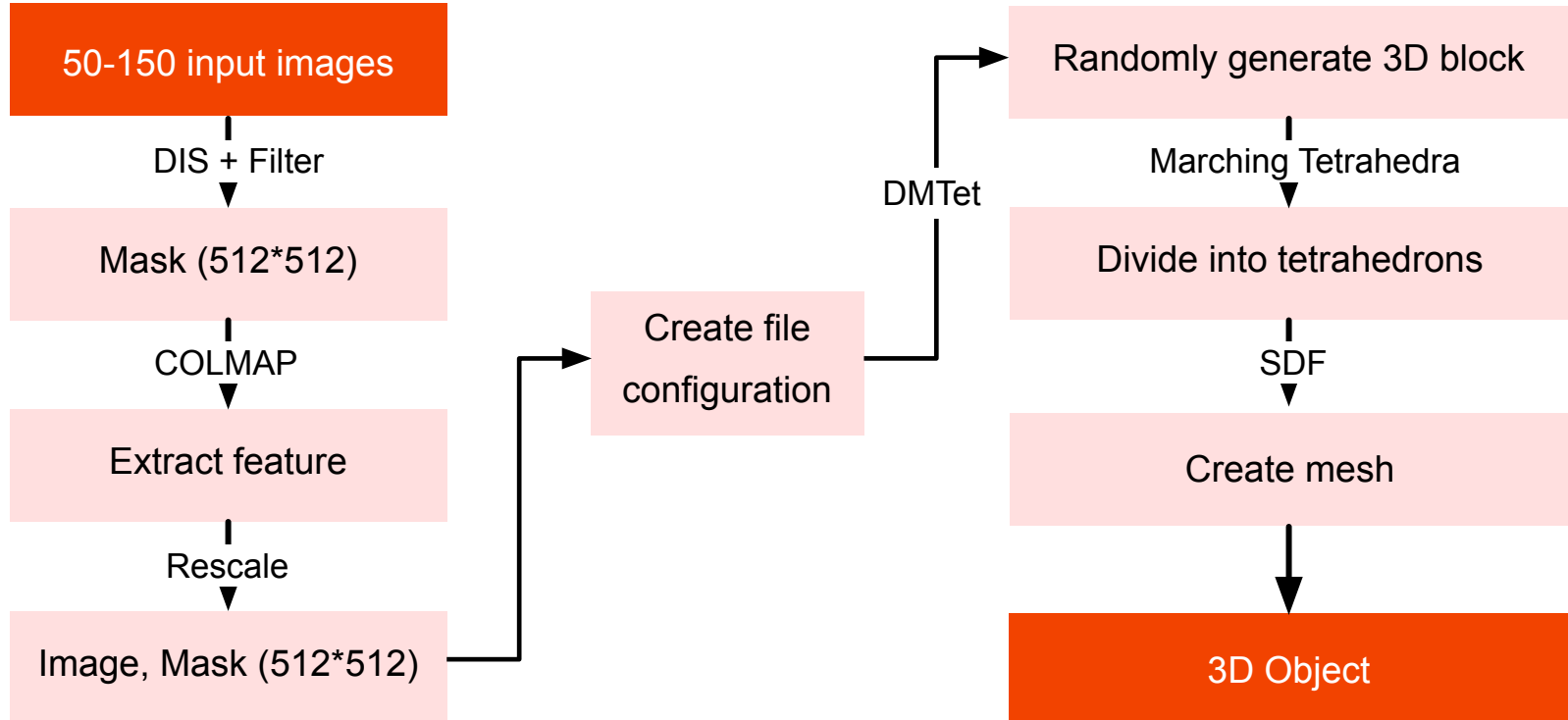


Big Data Analysis Flow





3D Model Shaping Process



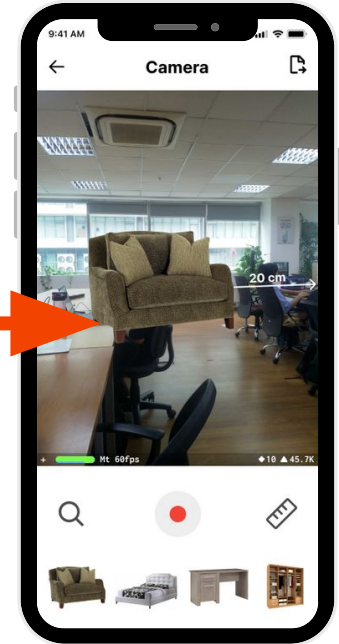
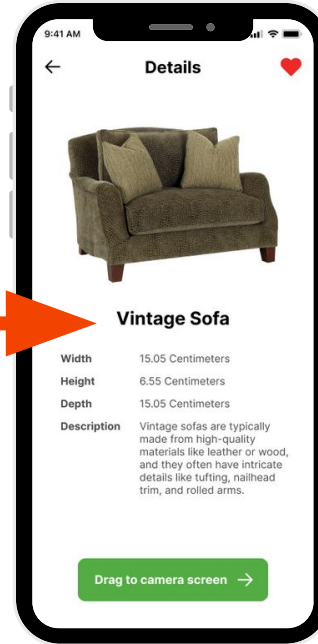
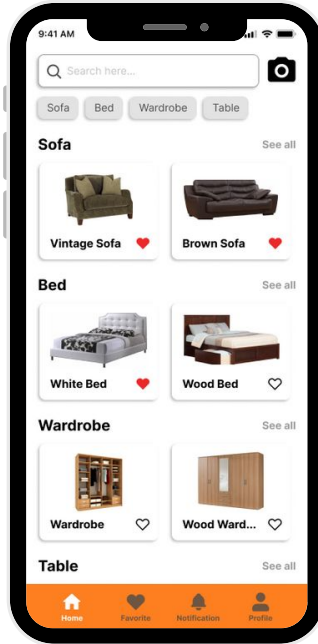


Key Features

1

Drag 3D objects from gallery to room view

- Zoom in
- Zoom out
- Switch positions
- Adjust proximity



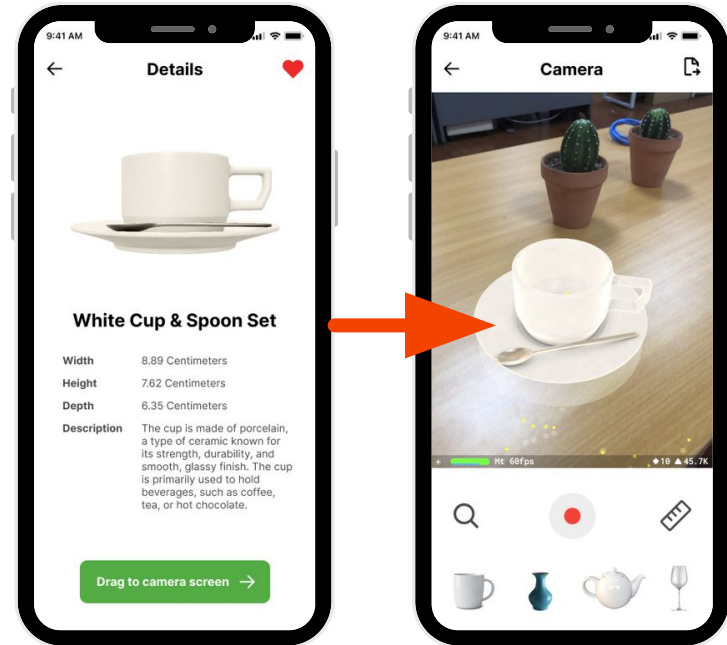


Key Features

2

Rotate 3D objects

- Rotate up
- Rotate down
- Rotate sideways



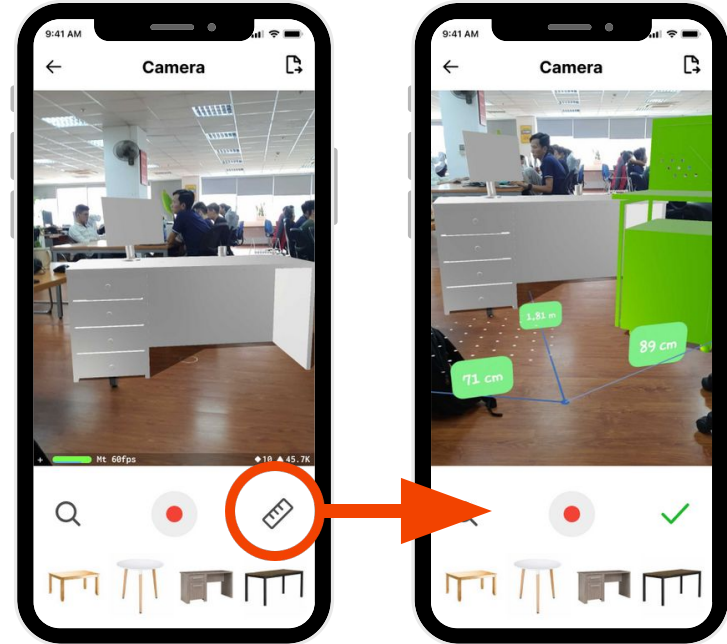


Key Features

3

Determine necessary distance when placing objects in indoor room view

- Export parameters
- Record video of the process





Virtual Try On Glasses

BHSOFT is now focusing on developing new features and enriching the libraries of 3D objects with a notable addition being Virtual Try On Glasses feature.



2D Glasses Technique

3D Bounding Boxes and Depth Prediction Networks

Superimpose Virtual Glasses onto Live Face Image
Technique

3D Head/Face Model Technique



Equipment Required

ML Server Hardware Required

Mainboard Intel W480, Socket 1200, ATX, 4 RAM DDR4

CPU Intel Xeon W-1370P (3.6 GHz turbo up to 5.2 GHz, 8 cores 16 threads, 16MB Cache, Comet Lake-S)

RAM 32GB DDR4

SSD 512GB M.2 + HDD 2TB

GPU RTX3090 (24GB GDD6X, 384-BIT, HDMI +DP, 2X8-PIN)

Devices Required

iPhone (any version with Lidar)

Android (from version 9 and up)



Summary



Enhanced Vision

Improves visual clarity in real room view.



Real-Time Assistance

Provides dynamic and real-time information.



Customized Features

Offers customized features tailored to specific needs.



Independence

Fosters autonomy, enabling independent navigation.



Contact Us



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6th Floor, Technosoft Building, 15/8 Duy Tan Str., Cau Giay Dist., Hanoi, Vietnam