JAEMIN LEE

software engineering, Korea Aerospace university (KAU)

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Education

KoreaAerospace University   **March. 2016 – present**

Bachelor of Science in Computer Science [expected: March. 2022]   *overall GPA 3.83/4.50, major GPA 4.07/4.50*

Military Service (leave of absence)March. 2017   December. 2018

Relevant Coursework

- Data Structures
- Operating System
- Algorithms Analysis
- Database Management
- Artificial Intelligence
- Internet Technology
- Systems Programming
- Computer Architecture
- Flight Control system

Projects

Selecting music related on user's emotion App | *Android studio, Google Cloud Console, AWS***March 2020 - June 2020**

- Selecting music and play related on user's talk.
- Analyzing user's emotion by what they said to device with SageMaker, Labmda on AWS and open-sources
- Converting voice data to text data with Google Speech To Text API(STT)
- First, we tried to use AWS transcribe service, but the accuracy of Korean is so low so that we determine to change it
- Inserting music list to Firebase handwork not a api because of the Copyright
- Designed on Android Studio framework to listening user's voice and play the music
- – My Task –
  * Use google speech to text API(google cloud platform) and connect to Android Studio
  * Send data(voice -¿ text)to S3 in AWS
  * Make a trigger Lambda with S3 that operates if data is stored in S3
  * Design database schema by Google Firebase and make a list of music and connect to android studio

Storing web sites on my web application | *NodeJs, MongoDB, react, Express*   **July 2020 - January 2021**

- Storing various web sites that people usually use for lots of purposes.
- People search a lot of web sites for assignment, research, project, design, etc. So they prefer their own sites.
- Designed back-end api by nodejs and tested the api by postman and also cooperated with front-end team by Github.
- Made the login function with JWT Token on session
- Making a list of web sites and user's private information in MongoDB
- – My Task –
  * Design database with MongoDB ODM and test it by MongoDB-Compass
  * Build Web Server with NodeJS and design RESTful API and test it by POSTMAN
  * Embody user login function by JWT Token

Controlling window automatically by user's phone | *android studio, AWS, arduino* **November 2020 - January 2021**

- Take temperature, humidity in the home by arduino sensor that attached to the window
- Send temperature and humidity data to user's application by AWS services
- User can open or close window by just a one click in application
- – My Task –
  * Stored data from arduino sensor in AWS s3
  * Send the data and alarm to android by lambda service that connected to s3 by trigger and google fcm
  * Received data from android and send it to arduino again

Handling smart device by face detection instead of finger | *deep learning, pytorch, android studio* **April 2021-present**

- User can scroll or click or drag whatever they do repeatably with smart phone or tablet like webtoon or music sheets by their face expression or simple action with face instead of finger
- Extracting video data by Real-time camera and Analyzing a face expression of user's
- Producing result by inserting data of face expression to trained model
- Using a deep learning model like inception V3, YOLO, ResNet, etc.
- Designing application function like assistive touch in ios and background camera
- – My Task –
  * Search for deep learning network open-sources and determine which model is most suitable to android because of the weight and speed
  * Studying a Dlib software that extracts 68 points from face but we determine that's too heavy so it's not suitable for our project
  * Find more light model designed by ResNet and face utils harr-cascade library based on python but it make low accuracy
  * Try to use android sdk called chaqoupy to embed python script in android studio
  * Some problems on chaqoupy, So use socket.io protocol to communicate android with server that stored trained model in

Technical Skills

Languages: Python, Java, C, C++, JavaScript, SQL, Assembly
Developer Tools: VS Code, Eclipse, Google Cloud Platform, PyCharm, Postman, Arduino
Technologies/Frameworks: GitHub, Express

Honors and Awards

- grade scholarship $1200, KAU   2nd semester 2019
- grade scholarship $700, KAU   1st semester 2020
- grade scholarship $1200, KAU   2nd semester 2020

Other activities / Volunteer

external software engineering union circles   **Summer 2020 – Winter 2020**

  * Make a team among the union circles member autonomously and design all step of the web application project like planning, designing, analyzing, coding, testing, etc.

ICT MAKE-A-THON   **May 2020 – Present**

  * Make a notification speaker with raspberry pi for who have visual impairment
  * Take a crosswalk light picture by raspberry pi camera by real-time and notice the light is green or red by speaker
  * Analyze the light by deep learning model like open source

Volunteering   **Summer 2019 Vietnam**

  * Educational volunteering for korean students who studied in Vietnam about Drone
  * Show how to make a drone and code the way to drive the drone by Arduino and pre-installed application
  * Flight Control System course was really crucial opportunity for me to teach young students.