Jeonghoon Kim

Email: junghun1112@gmail.com
Pocket phone: (612) 450-2180
LinkedIn: https://www.linkedin.com/in/junghun-kim-42362a24b/
GitHub: https://github.com/junghun-K
Website: https://jeonghoonkim-d4f87.web.app/

EDUCATION

University of Minnesota, Twin Cities *(Expected) May 2023*
- Bachelor of Science and Engineering - Computer Science *GPA 3.5/4.0*

TECH WORK HISTORY

Knowledge Computing Lab, University of Minnesota-Twin Cities
AI Research Assistant *Jan 2023 – May 2023*
- Conducted research on Text Detection and Recognition in Historical Maps.
- Fine-tuning TESTR (**Text Spotting Transformer**) to detect multi-languages on Historical Maps.
- Generated synthetic images using a combination of processed text data and **computer vision** techniques.
- Visualized text on the Historical Maps with a confident rate using **computer vision** in **Python**.

Corporate R&D Center, Tesser Inc, Seoul, South Korea
Data Scientist Intern *May 2022 – Sept 2022*
- Extracted desired data from clinical trial websites using the **Selenium**, and **Beatifulsoup**.
- Conducted exploratory data analysis (EDA) on clinical trial data using **Pandas, Numpy, Matplotlib** etc.
- Preprocessed clinical trial data to make it feasible for machine learning models, achieving over **70% accuracy**.
- Developed a highly efficient data distribution system for clinical trials using **clustering algorithms** with **dimension reduction techniques**, achieving optimized performance measured by the silhouette coefficient.
- Performed hyperparameter tuning using Wandb.
- Deployed a deep learning model using **REST API**, enabling efficient and scalable data processing and analysis.

Data Engineer *March 2021 - Dec 2021*
- Achieved over 95% accuracy with XGBoost, CatBoost, and LightGBM for inferring on five incurable diseases with medical checkup data.
- Utilized **topic modeling** to extract key features from cancer community posts, resulting in visually informative word clouds to aid in understanding and analysis.
- Converted text into vectors using distributed prediction-based embeddings from the extracted text data using PyPDF2.
- Built an RNN model that generates names with a character-level RNN based on languages using **PyTorch**.
- Documented the **REST API** thoroughly using comments and graphs.
- Refactored the **REST API** structure for better readability and cost-effectiveness.

PROJECTS

Drone Simulation Sprint (link)
- Utilized **GitHub** for version control and collaborative software development as well as code reviews.
- Implemented **Agile methodology** to manage projects, resulting in improved efficiency and timely delivery of software development projects.
- Demonstrated proficiency in implementing various **design patterns** using **C++**.
- Led the project in implementing the **Decorator design pattern** by planning with **UML diagrams** and executing the implementation.
- Implemented a taxi meter that deducts the fare from the robot's wallet after dropping off at the location.

Personal Website (Github: PythonServer, NodeJS, MUI)

- Implemented the front-end web pages using **HTML/CSS/JavaScript**.
- Generated contact management interacting with a **MySQL** database.
- Utilized two public **APIs** to find the location and current weather from the found location.
- Developed **Python** and **NodeJS** HTTP server for pure request/response communication.
- Conducted **Postman** testing to validate potential HTTP requests.
- Deployed and managed applications on **AWS** and **Google Firebase** cloud platforms.
- Implemented and designed it by myself using **Material UI** and it has all about me.

To-Do-List (link)

- Created a server utilizing the **Express.js** framework and **MySQL** database.
- Utilized user interactions to change the status of an item without reloading.

SpaceMineSweeper (link)

- Generated a SpaceMineSweeper game that destroys mines using **TypeScript**.

ACTIVITIES

- **Idea Bank**; Ideas of Business models based on the worldwide problem and daily life.
- **Volunteered** at an **abandoned dog shelter**, providing essential care and support to neglected dogs in need.
- Directed the promotion of Tesser Inc.'s product at the **LA festival** to over 300 people.
- Completed military service in the **Republic of Korean Army**.
- Played as a midfielder in the Korean **Soccer Team** at UMN.

TECHNICAL COURSEWORK

- Machine Learning
- Data Mining
- Operating Systems
- Interactive Graphics & Games
- Natural Language Processing
- Database System & Management
- Algs. & Data Structure
- Natural Language Processing
- Artificial Intelligence
- Discrete Structures
- Program Design & Development

SKILLS

- **Programming Languages**: Python, PyTorch, Tensorflow, JavaScript, TypeScript, JAVA, C, C++, SQL, HTML/CSS/JS, PUG
- **Developer Tools**: VSCode, Jupyter Notebook, Github, Unix/Linux, Postman, Docker, Wandb, Jira
- **Technical Skills:** Web Scraping, EDA, REST API, Modulization, Optimization, Thread Management
- **Technology & Frameworks**: Node.js, Express.js, MySQL, PostgreSQL, Flask, AWS, GCP, Agile process