Jennie Jinhee Bae

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EDUCATION

University of Southern California, Los Angeles, CA   Aug 2022-Present
Master of Science in Computer Science (current **GPA**: 3.8/4.0)
- **Coursework Highlights**: *Web technologies, Database systems, Analysis of Algorithms, Multimedia Systems Design*

Gachon University, Gyeonggi-do, South Korea
Master of Engineering in Computer Engineering (**GPA**: 4.0/4.0)   Sep 2020-Feb 2022
Bachelor of Engineering in Computer Engineering (**GPA**: 3.6/4.0, cum laude)   Mar 2017-Feb 2021

WORK EXPERIENCES

Age of Learning, Glendale, CA   Jun 2023-Present
Software Engineer Intern
- Created endpoints to accept user authentication and conversation histories through API service on **Docker** utilizing **PHP** and SDK.
- Developed unit tests and end-to-end testing based on test-driven development getting login tokens to check the failure scenarios.
- Utilized the **Large Language Model** framework to classify users' phrases in a chatbot service by integrating ChatGPT in **Python**.

K2soft, Seoul, South Korea   Jan 2022-Jun 2022
Software Engineer
- Increased smart farm crop yields to **12%** by developing a genetic algorithm in **Python** from 11 environment data.
- Implemented a communication module between a web server and an AI secretary service of the company using **Flask** and **Apache**.
- Performed live translation by recording the speech and converting it to text using **Google API** to provide **103** different languages.

Artificial Intelligence Lab, Gyeonggi-do, South Korea   Mar 2019-Feb 2022
Research Assistant under Professor Joon Shik Lim
Bio-Data Construction and Diseases Prediction
- Predicted the possibility of colon cancer by developing modified Harmony Search algorithm and achieved **94%** classification accuracy in colorectal cancer gene information from Princeton University Gene Expression Projects. *Paper(Mathematics)*
- Deployed **a mobile application** for predicting **5** depression levels using a Neuro-Fuzzy algorithm from wireless ECG machines.

Artificial Intelligence Convergence Research
- Devised a reinforcement learning feature selection method in which two agents update the Q-value of each agent by comparing rewards and achieved the **97.89%** best classification accuracy than other 5 models for 3 data sets. *Paper(Sensors)*

Development of Integrated Diagnosis Solution Based on AI Technology
- Classified normal and abnormal heart sound data with **97%** accuracy by electronic auscultation using statistical features of wavelet coefficients and cepstral coefficients collaborated with Gachon Gil Medical Center. *Paper(2020ICTC)*, *Paper(2020BCPT)*

Facial Recognition and Emotion Analysis Research
- Analyzed face data using Euclidean distance formula and extracted **2278** features with **87.6%** emotion classification.
- Obtained **13%** higher accuracy than CNN and found eyes and mouth distance to be the most effective feature. *Paper(2021ICTC)*

VOLUNTEERING & PROJECTS

USC Center for AI in Society, Los Angeles, CA   Nov 2022-Mar 2023
Student Researcher under Professor Bistra Dilkina
- Worked with over **20,000** spatially explicit simulation data points of wildfires across California to analyze patterns for wildfires.
- Identified plans that include one of the burn units among the **58** candidate solutions generated for each unit and exclude the others.

Multimedia System Design   Jan 2023-May 2023
- Designed functional interfaces for interactive exploration of video sequences by extracting and mapping data into movies in **Python**.
- Utilized **Java** to address sampling and aliasing issues by resampling and filtering images in both the spatial and temporal domains.

Event Search Web Application demo link   Jan 2023-Apr 2023
- Made a responsive web app using Ticketmaster, Spotify, and Google Maps API for searching all events and displaying the details.
- Built a backend server in **JavaScript** using **Node.js** and a frontend utilizing **Angular** and **Bootstrap**, then deployed on **GCP**.

TECHNICAL SKILLS

Programming Language: Python, Java, C/C++, PHP, MySQL, JavaScript, HTML, CSS, TypeScript, SwiftUI
Tools: Git, SDK, Google Cloud Platform (GCP), AWS, Arduino, Praat
Frameworks: Keras, Tensorflow, Numpy, Pandas, Langchain, Apache Tomcat, Angular, Bootstrap, Node.js