JUNSOO KIM

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EDUCATION

University of Southern California Los Angeles, CA
Bachelor of Science in Physics/ Computer Science August 2023-Present
Minor in Artifical Intelligence Application
GPA: 3.89/ 4.0
Relevant Coursework: Advanced Learning Python, Discrete Math, Linear Algebra, Introduction to Programming(C++)

EXPERIENCE

University of Southern California Los Angeles, CA
Undergraduate Research Assistant November 2023-June 2024

- Developed a good understanding of quantum physics and its applications while assisting 5+ graduate students with experiments
- Presented personal research in front graduate students in Weekly Conference
- Coded Standard Deviation generator for large 5000+ input data of N-V centers in C++
- Coded Mathematica to compile detection volume and practical volume based off paper

California State University East Bay, CA
High School Researcher December 2020-February 2021

- Assisted Professor Rosario on research, was funded by the United States Geographical Survey
- Converted data into graph through Fourier Transfer deploying Matlab
- Published as a Third Author of paper is published in Elements

ACADEMIC PROJECTS

College Professor Web Scraper | Python, PostgreSQL

- Co-created a web scraper operating Python, BeautifulSoup4, and Psycopg2 to collect and manage professors' educational backgrounds
- Utilized BeautifulSoup4 for effective HTML parsing and data extraction, handling web structures and content
- Implemented PostgreSQL for robust data storage, retrieval, and management, optimizing database performance for large datasets using complex queries

HandSignalCV | OpenCV, Mediapipe, Hdf5, Cohere, Tensorflow

- Developed a project operating OpenCV, Mediapipe, Tensorflow to create ML Code detect and translate American Sign Language (ASL) into spoken sentences
- Extracted hand landmarks through Mediapipe and captured 200 images per alphabet total 5200 images to create high accuracy when used by multiple individuals
- Utilized a dataset split into training, validation, and test sets and stored images into numpy format as a hdf5 file for efficient ML training data access
- Employed a Deep Neural Network (DNN) with convolutional layers and ReLU activation functions and trained with the Adam optimizer on Jupyter Notebook to achieve MSE of 99.5%
- Implemented functionality to save translated letters into given interval and integrated Cohere API for grammar checking preconstructed sentence to ensure better communication

SKILLS

Languages: Python, C/C++, HTML, CSS, Node.js, React.js, PostgreSQL
Developer Tools: Git, Docker, Visual Studio, PyCharm
Data Library: NumPy, Pandas, Matplotlib, Seaborn, BeautifulSoup4, Psycorg2, Scikit-learn, H5py
Awards: J. Jayne Bissell Memorial Scholarship, Academic Achievement Award, 2 x Dean's List