Juheon (John) Chu

https://juheonchu.github.io/ResponsivePortfolio/
juhuhni98@gmail.com | (717) 636-3611
https://www.linkedin.com/in/juheonchu/ | Carlisle, PA 17013
https://github.com/JuheonChu

EDUCATION

Dickinson College **Carlisle, PA, USA**
Bachelor of Science in **Computer Science and Mathematics** Expected February 2024
Cumulative GPA: 3.79/4.0; *Major GPA (Computer Science)*: 3.95/4.00; *(Mathematics)*: 3.86/4.00
Relevant Courses: Linear Algebra, Computability/Complexity, Database Systems, Data Mining, Large-Scale Open Source Software Development, Analysis of Algorithms, Operating Systems, Computer Organization & Architecture, Senior Seminar
Honors & Awards
- The Forrest E. Craver Memorial Prize in Mathematics: Awarded to a junior student excelling in mathematics

SKILLS

Programming Languages: Java, C/C++, Python, JavaScript, SQL, HTML5, CSS, CUDA
Software & Machine Learning: AWS, MySQL, GitHub, Linux, Pytorch, TensorFlow, NVIDIA, Transformers, Docker
Certifications: Certified Scrum Master (*Scrum Alliance*)

WORK EXPERIENCE

Reeplayer **Culver City, California**
Software Engineer Intern **May 2022 – August 2022**
- Implemented 4 state-of-the-art video resolution services by providing NVIDIA Maxine real-time AI visual effects.
- Reduced video camera noise by 80% and encoding artifacts by 55% with CUDA C/C++ to provide end-user utilities.
- Automated code coverage from 60% to 80% by modularizing Data Access Objects in Junit tests for camera functionalities.
- Analyzed the optical flow of object movements in 30 soccer videos with aim of predicting the trajectory of soccer players.

DNB **Goyang-si, South Korea**
Full-Stack Software Engineer Intern
- Revamped working process to save 8+ hours per week by modularizing program codes with Spring MVC framework.
- Developed and maintained 40+ backend end-user services of websites managing 6+ databases in MySQL workbench.
- Designed a user-friendly brochure site utilizing HTML, CSS, and JavaScript, resulting in 15% increase in monthly profits.

RESEARCH EXPERIENCE

Dickinson First Year Seminar (FYS) Assignment **May 2022 – Present**
- Succeeded independent student-faculty collaborative research on Decision Science with Professor Dick Forrester.
- Authored a Python program with Gurobi solver to assign 660+ Dickinson freshmen to 42+ seminars.
- Accomplished balancing gender and student type ratios by 85% in FYS classes maintaining 16+ course capacities.
- Automates to parse the student data file given by Dickinson College to be loaded into the Student Assignment program.

PROJECTS

COVID-19 Infection Estimation
- Built a deep-learning model that estimates the infection rate of COVID-19 by scanning 740 CT scans of the chest.
- Predicted the COVID-19 infection rate with 64% accuracy utilizing the Pytorch Deep Learning library.

Hugging's Transformers Open-Source Development
- Coauthored 2 Pull Requests that are merged resolving "good first issues" tickets in Hugging's Transformers.
- Coordinated with 3-4 senior open-source administrators to debug gigantic Pytorch and Tensorflow codebases.

Albert Q&A System
- Designed an AI Question-Answering system with a pre-trained ALBERT model Transformers, Pytorch, and Tensorflow.
- Achieved answering the question with 78% of accuracy subject to a given context.

Fake News Detector
- Implemented an LSTM model that detects fake news by observing the total weight matrix size of the LSTM training data.
- Created a pipeline that computes 3-dimensional LSTM by producing 2-dimensional LSTM output in tensor.

Butcher Operating System (OS) Kernel
- Demonstrated 16-bit operating system capable of concurrent execution of 8+ open source OS prompt commands.
- Established a file I/O system by incorporating a pipeline that links 4+ software to the disk image.