Byeong Min Park

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Education

University of California, Berkeley August 2018 – December 2021

Bachelor of Science, Electrical Engineering and Computer Science

Related Coursework: Linear Algebra, Probability, Data Structure, Algorithms, Data Science, Artificial Intelligence, Machine Learning, Computer Vision, Optimization Models, Security, Computer Architecture, Operating Systems, Databases

Experience

Junior Mentor, Computer Science Mentors August 2019 — May 2020

Mentored two weekly sections of 4-6 students in a classroom setting, focusing on lecture topics and exam-like questions from CS61A, an introductory Python-based computer science course

Participated in weekly staff meetings to discuss about logistics, teaching strategies, and content preparation

Course Tutor, University of California, Berkeley August 2019 — May 2020

Led two weekly office hour sessions along with a Graduate Student Instructor for CS61A, an introductory undergraduate course with 2000+ enrolled students

Taught programming concepts of abstraction and software through Python3, Scheme, and introductory SQL to small groups of students in need of additional help

Graded student projects and contributed to the course material

Skills

Programming Language: HTML/CSS, Javascript, SQL, Java, Python, C, Golang

Framework: Git, Jupyter (NumPy, Scikit, Pandas, PyTorch), React.Js (CRA, Gatsby), Express.Js, PostgreSQL, MongoDB

Environment: Windows, Linux/UNIX

Projects

CoffeeLog - *Materialize, Express.Js, PostgreSQL*

Designed a simple web app to journal daily brews for coffee drinkers who enjoy brewing coffee at home

Implemented the backend with Express.Js and PostgreSQL to support fast querying and CRUD operations on brew entries

Added Google OAuth2 authentication and session management for easy, secure user authentication

Built the frontend using Handlebars templating engine and Materialize CSS for a simple mobile-first interface design

Facial Keypoint Detection - *Python*

Trained a Convolutional Neural Network to automatically detect facial keypoints of portrait images using PyTorch

Processed the IMM Danes dataset through data augmentation techniques from scratch using only NumPy

Achieved ~19.3 Mean Absolute Error from predicting 68-point facial keypoint detection on the ibug Dataset

PintOS - *C*

Implemented fundamental OS features on PintOS, an educational uniprocessor Operating System written in C

Emulated Linux-like commands, supporting both process control and file system related syscalls with concurrency and synchronization in mind

Modified thread and process data structures to support priority scheduling with recursive priority donation

Devised a buffer cache design to build a faster, extensible file system data structure similar to Unix FFS

UnicornBox - *Golang*

Reconstructed an initially vulnerable file-sharing website by re-implementing user authentication and file functionality, supporting token authentication, file upload/download, and file sharing

Implemented various strategies to make sure that the server is protected from standard security attacks

byeongmin.netlify.app - *React.Js personal website*