Sumin Cho

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EDUCATION

University of Illinois Urbana-Champaign *August 2020 - May 2023*
Bachelor of Science in Computer Science and Advertising *GPA: 3.9/4.0*

Relevant Coursework: Data Structures, Algorithms and Models of Computation, Computer Systems, Software Design Studio, Database Systems, Artificial Intelligence, Programming Languages and Compilers, Probability and Statistics for Computer Science, Computational Advertising, Tech and Advertising Campaigns

EXPERIENCE

Software Engineering Intern | *Red Hat* *May 2022 - August 2022*
- Collaborated in a Scrum team to develop [Cachito](), a Python service to process and cache source code
- Added a database table (using SQLAlchemy) which stores comprehensive error logs raised by Cachito requests; increased debugging efficiency and reduced error frequency by 20%
- Extended the web API by adding filters for error origin and type using pydantic (data validation)
- Evaluated performance of Cachito by running integration tests on Docker/Podman containers

Back-End Developer | *SmartForm* *September 2020 - December 2021*
- Devised a startup mobile fitness app (in Python) that provides a live feedback of the user's workout posture by applying disciplines of machine learning and computer vision
- Incorporated lunge pose detection into mobile app using PoseNet (TensorFlow model), which detects human figures in camera by estimating 17 key joint locations

Web Developer | *MUSE Research Group* *December 2021 - May 2022*
- Created the research group's [website]() (HTML, CSS, JS) which showcases their work and members
- Designed an interactive dashboard (Plotly, Flask) with a choropleth map visualizing YouTube trends

Lead Course Assistant | *Data Structures* *January 2022 - May 2023*
- Coordinated weekly office hours, tutoring students and debugging C++ code with Valgrind and GDB
- Oversaw lab groups of over 100 students, guiding them through problems on data structures and C++

PROJECTS

[Image Classifier]() | *Python, PyTorch, NumPy*
- Trained a convolutional neural network (CNN) to classify images with 95% testing accuracy
- Built custom PyTorch Dataset, DataLoader, and model to optimize the performance of CNN

Online Course Recommender | *JavaScript, MySQL, React, Node.js, Google Cloud*
- Developed a web application that recommends online courses from Coursera, Udemy, and edX to users
- Managed a team of 4 members, distributing tasks and ensuring they were completed by each milestone

[Wikipedia Dataset Visualization]() | *C++*
- Visualized the connectedness of Wikipedia hyperlinks using the Fructerman-Reingold layout
- Implemented PageRank algorithm to rank Wikipedia pages by their prevalence in the graph dataset

SKILLS

Programming Languages: Python, C/C++, Java, JavaScript, SQL, HTML, CSS, OCaml
Frameworks & Tools: Git, Linux, RESTful API, MongoDB, Neo4j, Flask, NumPy, pandas, PyTorch, Google Cloud