Sumin Cho

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EDUCATION

University of Illinois at Urbana-Champaign *August 2020 - May 2023*

Bachelor of Science in Computer Science and Advertising *GPA: 3.89/4.00*

Relevant Coursework: Data Structures, Algorithms and Models of Computation, Software Design Studio, Computer Systems, Database Systems, Programming Languages and Compilers, Probability and Statistics

EXPERIENCE

Software Engineering Intern | *Red Hat* *May 2022 - August 2022*

- Collaborated in Scrum team to develop Cachito (in Python), a service to process and cache source code
- Added a table (in SQL database) 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

Course Assistant | *Data Structures* *January 2022 - May 2022*

- Coordinated weekly office hours, providing students with one-on-one support through their projects
- Oversaw lab groups of 5-10 students, guiding them through problems on data structures and C++

PROJECTS

Naïve Bayes Sketchpad | *C++*

- Programmed a sketchpad that classifies handwritten digits using Naïve Bayes classification
- Trained a Naïve Bayes model to classify handwritten digits with 97% testing accuracy

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

Ant Simulation | *C++*

- Reproduced the ant colony optimization by emulating the formation of ant trail pheromones
- Utilized Cinder (C++ library) to animate the ants, colonies, and food sources in 2-D graphics

SKILLS

Programming Languages: Python, C/C++, Java, HTML, CSS, SQL
Frameworks & Tools: Git, Linux, REST API, Flask, NumPy, pandas, pytest, SQLAlchemy