

# Sumin Cho

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## EDUCATION

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### 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, Computer Systems, Programming Languages and Compilers, Software Design Studio, Database Systems, Artificial Intelligence, Computational Advertising Infrastructure, Probability and Statistics for Computer Science

## EXPERIENCE

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### 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

### Course Assistant | Data Structures

January 2022 - Present

- Coordinate weekly office hours, tutoring students and debugging C++ code with Valgrind and GDB
- Oversee lab groups of 5-10 students, guiding them through problems on data structures and C++

## PROJECTS

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### Online Course Recommender | Team Captain | MySQL, Node.js, Google Cloud

- Built 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](#) | Project Lead | C++

- Visualized the connectedness of Wikipedia hyperlinks using the Fruchterman-Reingold layout
- Implemented PageRank algorithm to rank Wikipedia pages by their prevalence in the graph dataset

### [Naïve Bayes Sketchpad](#) | Creator | 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

## SKILLS

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**Programming Languages:** Python, C/C++, Java, JavaScript, SQL, HTML, CSS

**Frameworks & Tools:** Git, Linux, REST API, MongoDB, Flask, NumPy, pandas, Valgrind, GDB, Google Cloud