Rachael Close

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EDUCATION

Cornell University, College of Engineering, Ithaca NY **Bachelor of Science Expected May 2025**
Major: Computer Science • Dean's List

Selected Coursework: Analysis of Algorithms • Operating Systems • Computer System Organization and Programming • Data Science • Functional Programming • Object-Oriented Programming and Data Structures • Discrete Structures • Computer Vision • Machine Learning • Probability

TECHNICAL EXPERIENCE

H2Ok Innovations **(Software Engineer)** **May 2024-Aug 2024**
• Build company website using React, JavaScript, CSS, and HTML, give and receive feedback during weekly meetings, maintain code using Git.
• Develop and maintain machine learning scripts for data analysis and predictive modeling.

Cyber-Agricultural Intelligence and Robotics Laboratory **(Software Engineer)** **Jun 2023-Aug 2023**
• Develop a computer vision model to automate the process of separating callus cells with a robot arm, fine-tuning Segment Anything for the model and writing scripts in raspberry pi to take photos, showcased in a poster presentation.
• Build a 3-D reconstruction of the callus cells using neural radiance fields (NERF).
• Participated in weekly paper presentations and led NERF journal reading group.

Cornell University Autoboat Project Team **(Software Engineer)** **Sep 2022-May 2023**
• Implemented Python for path planning algorithms and YOLOv5m model training for buoy recognition.
• Finalist in RoboNation competition (2023)**.**

Cornell Ann S. Bowers College of CIS **(Robotics Research Intern)** **Jun 2023-Aug 2023**
• Implemented ROS and SLAM for 2D mapping system development and optimization track for a MuSHR race car.
• Investigated open-ended vision problems under the mentorship of Professor Sarah Dean.

PROJECTS

Movie Genre Predictor, AI Praq **Jan 2024-Jun 2024**
• Develop machine learning models to predict movie genres based on movie titles. Utilized Python and various machine learning libraries.

Terminal Chess Game, Functional Programming **Aug 2022-Dec 2022**
• Collaborated in a team of four to design and implement a fully functional terminal chess game using OCaml.
• Key contributions include coding various game functions, implementing continuous integration and deployment practices using GitHub Actions.

SKILLS

• **Programming languages**: C/C++, Python, Java, Java Script, OCaml, HTML5, CSS, PHP, Ruby, Unix, MySQL, Clojure, Scala, Swift
• **Libraries**: Bootstrap, React, Foundation, Pure.css, Tailwind, UIKit, MVP.css, Lodash, Luxon, Redux, Axions, Jest,
• **Developer Tools and Frameworks**: Git, Linux Environments, Agile Methodology, Postman, Docker, PyTorch, ROS, MS Excel, MS Word, MS PowerPoint, Kivy, Conda, VS Code, Apple XCode, Eclipse, Atom, Vim, Nano

KEY LEADERSHIP EXPERIENCE

Teaching Assistant CS 2800 (*Discrete Structures*), CS 3110 (*Functional Programming*) **Jan 2023- present**
• Lead a class of 20+ students every week. Collaborate and coordinate with fellow teaching assistants in grading homework & exams.

Girls Who Code Instructor **Jan 2024- present**
• Lead a class of 30+ students aged 10-14 in exploring the fundamentals of computer science and coding. Design engaging and interactive lessons.

PUBLICATIONS AND AWARDS

• Acheta J, Bhatia U, Jeanette H, Hong J, Rich K, **Close R**, Bechler ME, Belin S, Poitelon Y. Piezo channels contribute to the regulation of myelination in Schwann cells. Glia 2022 Dec;70(12):2276-2289.
• Clare Booth Luce Research Scholar ($6,000 summer research 2023)
• Kessler Fellow ($15,000 summer 2024 start-up grant)
• Grace Hopper 2023 Conference $1500 Scholarship Recipient issued by Cornell University