Eric McCarthy

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EDUCATION

University of Illinois at Urbana-Champaign **May 2022 (Expected)**

Bachelor of Computer Science, Minor – Statistics *Champaign, IL*

- **GPA:** 3.58 - Dean's List, all semesters
- **Courses:** Data Structures, Algorithms, Numerical Methods, Probability & Stats for CS, Compilers & Programming Languages, Virtual Reality, Computer Architecture, Advanced Web Development

EXPERIENCE

Applied Research Associates **May 2020–Aug. 2020**

Software Engineering Intern *Raleigh, NC*

- Maintained and upgraded the feature set of a large-scale C++ application used by the government
- Worked in a scrum team to track progress and test new functionality in code reviews
- Presented new feature proposals with budget outlines to clientele and management
- Refactored an existing Visual C++ project to be cross-platform compatible with UNIX-based systems

Smart Structures Technology Laboratory **May 2019–Jan. 2020**

Undergraduate Researcher *Champaign, IL*

- Fixed memory leaks in annotation software to reduce crashes by 90%, improving annotation efficiency
- Annotated training data for a neural network designed to identify structural defects in buildings

CS 125 Introduction to Computer Science **January 2019–Present**

Course Assistant *Champaign, IL*

- Instructed weekly labs where I guided 25 students through assigned coursework
- Held office hours to review weekly material and assist individual students with Java and CS concepts

Fermilab National Laboratory **Nov. 2016–May 2018**

Software Engineering Intern *Batavia, IL*

- Wrote automated test cases in Python to determine the efficiency and accuracy of chipsets under load
- Collaborated with advisor and project group on presenting test results and findings
- Created documentation for existing chipset code and new automated tests and protocols

PROJECTS

- **Rabadon.gg**
  - Website, database, and Python server developed using the MERN stack
  - Displays statistical data parsed and calculated from the Riot Games API
  - Utilized JSON data structures to efficiently store and parse large amounts of conditional data
- **Civilization**
  - Procedurally generated world simulator with simple AI
  - Implemented A* search algorithm for efficient pathfinding computation

AWARDS, SKILLS, INTERESTS

- **Awards:**
  - **Engineering Visionary Scholarship** (Fall 2019—Spring 2021)
  - **CS 125 Project Fair**, Most Impressive Project (Fall 2018), 500 participants
- **Skills:** C, C++, Java, Python, Haskell, Git, Linux, HTML, CSS, REST, MERN, R
- **Interests:** guitar, League of Legends (semi-pro player, top 0.05%), building PCs, cooking