**Patrick Cunningham**

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**EDUCATION**

**University of Illinois at Urbana-Champaign** May 2025

*Bachelor of Science in Computer Science* GPA: 4.0/4.0

* James Scholar, Dean’s List Fall 2021, Dean’s List Spring 2022, Dean’s List Fall 2022
* Relevant Coursework: Discrete Structures, Data Structures, Linear Algebra, Probability & Statistics for Computer Science

**EXPERIENCE**

**Undergraduate Research Apprenticeship Program**November 2021 – May 2022

*Subsonic Wind Tunnel*

* Led a group of 8 students alongside a Ph.D. mentor to design and engineer a model scale wind tunnel
* Performed data analysis and visualization of Excel spreadsheets containing over 3 million data points using Python libraries including NumPy and pandas

*Inverted Pendulum Control Experiment*

* Collaborated with a group of 10 students and a Ph.D. mentor to design and engineer an inverted pendulum
* Worked with the CAD sub-team to design and model various parts of the inverted pendulum system using Fusion 360 software

**Course Staff**  August 2022 – Present

*CS124 Course Assistant*

* Teach students the basics of Java for 10+ hours a week on course help site while expanding my communication, problem-solving and organizational abilities
* Record daily walkthrough videos, proctored weekly quizzes and study sessions

**Wheaton Park District** April 2021 – August 2022

*Assistant Manager*

* Instructed over 50 lifeguards in lifesaving skills such as CPR, first-aid, and artificial respiration
* Created bi-weekly schedules, led weekly in-service training, and ensured aquatics staff performed at a high level to maintain a safe pool environment

**PROJECT HIGHLIGHTS**

**Machine Learning Mobile App**  August 2022 – December 2022

*Personal Project*

* Created a mobile application that scanned a user’s pantry using a machine learning model and generated corresponding recipes the user could cook
* Used Node.js and MongoDB to create a streamlined backend server that handled recipe filtration, image processing, and general front-end GET/POST requests

**Automated Criminal Record Summary**  November 2021 – December 2021

*Personal Project*

* Analyzed and extracted data from 154 criminal record reports to analyze and extract data to create a criminal record summary using Microsoft Excel Python, PyPDF2, and xlwt.
* Developed knowledge in debugging, algorithm efficiency, and data processing through basic language analysis

**Automated Scheduling Software** June 2022 – August 2022

*Wheaton Park District*

* Automated scheduling system for aquatics staff of over 100 employees using Google Sheets and Google Forms
* Reduced total time spent scheduling by 20+ hours leading to a more productive aquatics staff
* Implemented invaluable skills in product management, client communication, and user experience

**ACTIVITIES**

**Theta Tau** February 2022 – Present

*Active Member*

* Selected as one of 18 from a pool of 300+ candidates to complete the Spring 2022 pledge process
* Raised over 500 dollars for the Champaign-Urbana community through 3 fundraising projects

**SKILLS**

* Technical**:** Python, Java, C++, Node.js, React Native, Autodesk Fusion