Patrick Kuczun

+1 (202) 855-2574 | pkuczun79@gmail.com | linkedin.com/in/patrick

EDUCATION

University of Illinois Urbana-Champaign Aug. 2022 – May 2026 (Expected)

Bachelor of Engineering in Computer Science - Dean's List 2023-2024 *GPA: 3.72/4.00*

TECHNICAL SKILLS

Programming Languages: C++, C, Python, Kotlin, Java, JavaScript, SQL, Assembly, HTML/CSS
Frameworks: React, Node.js, NumPy, Pandas, Flask, OpenCV, Matplotlib
Developer Tools: Git, MySQL, GDB, Valgrind, Docker, Google Cloud Platform, Android Studio, Verilog, MatLab
Languages: English (fluent), Polish (fluent), Spanish (intermediate)

EXPERIENCE

Software Engineer Intern Summer 2025

Capital One *Chicago, IL*

- Incoming Software Engineer Intern in the Technology Intern Program

Embedded Software Engineer November 2023 - Present

Illini Electric Motorsports *Champaign, IL*

- Developed a torque vectoring control model in **MATLAB**/**Simulink** to increase cornering performance, helping the team in placing 7th out of 70 teams in the FSAE EV collegiate competition
- Leveraged **CARSIM** simulation software to validate and fine-tune the torque vectoring algorithm, adjusting yaw moment calculations according to lateral acceleration and yaw rate gain
- Programmed embedded STM32 microcontroller library algorithms to control the car's state machine, safety features, and interactions with external devices and sensors, while reporting to BMS data dashboard

Event Server May 2021 - August 2024

SBR Events Group *Wood Dale, IL*

- Directed event setup/tear-down while implementing standard procedures, to guarantee seamless execution
- Optimized logistical workflows for the distribution of food and beverages, ensuring efficient and organized service

Data Science Project Lead August 2023 - February 2024

Biokind Analytics *Champaign, IL*

- Led a subteam of 5 in collaborating with healthcare nonprofits, delegating tasks, and organizing meetings
- Conducted data-driven analysis in Python of geographic and demographic trends among datasets of 40,000 cancer patients to optimize treatment using **pandas**, **NumPy**, scikit-learn, and **statsmodels** libraries
- Presented and worked with a nonprofit to integrate data-backed solutions that will manage flow of patients

Software Engineering Intern April 2022 - June 2022

ARxIUM *Buffalo Grove, IL*

- Contributed to the development of the FastFind Carousel, a project that increased the number of pharmaceutical SKUs by 60 percent through the use of **RxWorks** software and the **.NET** framework
- Developed test cases in **C#** to test API calls that removed inventory items from the FastFind Carousel

PROJECTS

CEX vs DEX Liquidity Dashboard | *Google Cloud Platform, SQL, Node.js, React* January 2025

- Developed a web-based dashboard to compare liquidity trends between centralized and decentralized exchanges
- Hosted a MySQL database on Google Cloud Platform with 50,000+ data points, featuring real-time updates
- Designed an interactive React frontend with a Node.js backend including pie chart and leaderboard visualization

Non-blocking Networking Server | *C, Git, Linux* February 2023

- Developed a multi-threaded TCP server in C to handle up to 1000 concurrent client connections efficiently
- Implemented custom packet framing protocol, reaching 20 percent faster data throughput over standard protocols
- Integrated asynchronous I/O operations using epoll to reduce client-server communication latency by 15ms

RELEVANT COURSEWORK

Computer Architecture, Database Systems, Intro to Algorithms and Models of Computation, System Programming, Data Structures, Discrete Structures, Software Design, Wireless IoT Systems, Numerical Methods, Text Information Systems