

HAMZAH KAMEL

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EDUCATION

Purdue University, West Lafayette, IN May 2025
Master of Science in Electrical and Computer Engineering
Purdue University, West Lafayette, IN May 2023
Bachelor of Science in Computer Engineering GPA: 3.26 / 4.00

PROFESSIONAL EXPERIENCE

Digital Systems Senior Design, Purdue University August 2022 – December 2022
Software Lead

- Incorporated a CC1310 microcontroller and coded instructions in C using Code Composer Studio
- Developed SPI, UART, and Radio protocols to operate concurrently, facilitating the creation of changing light effects on programmable light strips through seamless communication and functionality
- Created a robust transmission system for radio communication between a central controller and receivers, enabling simultaneous dissemination of diverse light effects to multiple receivers

Advanced C Programming, Purdue University August 2022 – December 2022
Undergraduate Teaching Assistant

- Enhanced and sustained proficiency in C programming by guiding students through regular office hours, fostering their understanding of programming concepts
- Strengthened students' problem-solving skills by reviewing C content and preparing them for homework and exams
- Curated student questions to improve tutoring solutions discussed in weekly staff meetings

Neurava, Purdue Research Park May 2022 – August 2022
Firmware Engineering Intern

- Manufactured new firmware for a smart wearable device capable of tracking vital signs of people at risk of SUDEP to give advanced warning
- Programmed in C and Python to establish real-time communication with the microcontroller using radio frequencies, ensuring consistent data updates
- Maintained intricate detail of progress and changes to code and circuitry to work efficiently and have a comprehensive account for reference

PROJECT EXPERIENCE

Software Engineering Project, Purdue University January 2023 – May 2023

- Created the frontend utilizing TypeScript to allow users to upload, update, rate, and manipulate GitHub packages uploaded as zip files
- Implemented a wide range of features in the backend using JavaScript, harnessing user input from the frontend to enable dynamic functionality such as user authentication, data manipulation, and integration with the database
- Developed the rate feature with a TypeScript file that effectively communicates with multiple Python modules to evaluate diverse aspects of GitHub repositories, consolidating the results in JSON format for further analysis

Operating System Project, Purdue University January 2022 – May 2022

- Constructed a Unix-like operating system from scratch using C, leveraging concepts and ideas from basic JOS
- Conducted thorough documentation and analysis at each milestone to address coding errors and record kernel progress
- Adapted the OS to meet modern standards by integrating knowledge of hardware/software stacks

LEADERSHIP EXPERIENCE

Purdue Engineering Outreach (PEO)

President April 2022 – May 2023

- Oversaw club funds, relations, activities, and events, fostering an inclusive environment for teaching engineering concepts to individuals from diverse backgrounds
- Managed all organizational aspects and provided guidance and criteria to executive members

Project Manager April 2020 – April 2022

- Served as an executive member overseeing project generation and tracking team progress
- Led all organizational projects and handled project development budgeting

TECHNICAL SKILLS

- Programming Languages and Tools: Git, GitHub, GitHub Actions, C, C++, Java, TypeScript, Bash Script, Assembly Language, Python, System Verilog, MATLAB, HTML, and CSS
- Language: Fluent in reading, writing, and speaking Arabic
- General Skills: Microsoft 365 Proficiency, Accountability, Adaptability, Attention to Detail, Creative Problem-Solving, Stress Management, Openness to Feedback, and Continuous Improvement