HAMZAH KAMEL

kamelh@purdue.edu | (617) 230-5908 | www.linkedin.com/in/hamzahkamel | https://hamzahk.com/

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