

# HAMZA 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