Bryce Cooperkawa

(630) 200-4098 | brycecooperkawa@gmail.com | www.linkedin.com/in/bryce-cooperkawa | brycecooperkawa.github.io

EDUCATION AND AREAS OF STUDY

Michigan State University, College of Engineering – East Lansing, MI August 2020-April 2024
Bachelor of Computer Science, Minor in Business **GPA: 3.58/4.00**

- Received Honors Excellence Scholarship and achieved Dean's List in five semesters

Collaborative Design

- Developed an Augmented Reality iOS application for Volkswagen utilizing the Xcode IDE, coding in Swift and utilizing the SDK's: ARKit, RealityKit and SceneKit, with a backend consisting of an web based admin console, mySQL database, AWS Lambda API and a S3 bucket.
- Worked as a team of five, interacted with Volkswagen representatives to define requirements, presented progress, received feedback on implementation, and incorporated guidance to improve our project.
- Created a presentation video representing an overview, outlining the application's value and demonstrating how it solved for a variety of use cases.
- Held a table at MSU's College of Engineering Design Day, the team presented to judges, performed live software demonstrations leading to an invitation for our team to go onsite at VW Auburn Hills location, presenting in person to Volkswagen leadership and development teams.

Software Engineering

- Gained first hand experience with the software engineering process through the development of a traffic jam assist system for a vehicle.
- Gathered requirements for the TJA system and interviewed clients in the automotive industry to better understand how the system would function in certain situations.
- Learned about various diagrams, use case, state, and sequence and utilized each with the TJA system to demonstrate what constraints, conditions, when and how the system would function.
- Compiled all information gathered about the TJA system into a software requirements specification document that provided all necessary information about the system.
- Presented the SRS document and a prototype demonstrating how the system functioned in different circumstances to instructors and clients.

Web App Architecture and Development

- Developed and deployed multiple web applications utilizing Docker and GCP, mastering both front-end technologies such as HTML, CSS, Jinja, and JavaScript, as well as back-end infrastructure with Python Flask and mySQL databases.
- Conceptualized and built a web-based project management tool, featuring a relational mySQL database backend, enabling user access and data management, while implementing real-time collaboration using Socket.IO for asynchronous communication, ensuring instantaneous updates across user's boards.

Intro to Computer Security

- Acquired proficiency in theory and practice of computer security engineering, covering user authentication, cryptographic tools, access control, database security, malicious software, denial of service, intrusion detection, firewalls, encryption, hash functions, keys management, and wifi/network security.
- Demonstrated practical skills by utilizing tools like Ettercap on a private network, for example, conducted DNS spoofing and ARP poisoning to redirect HTTP requests, showcasing an understanding of network vulnerabilities.

Mobile App Development

- Utilized Java and Android Studio to develop mobile applications for phone and tablets, demonstrating mobile development concepts such as layouts and constraints.
- Worked in a group environment to develop a Connect 4 application that used php files and a mySQL database allowing users to play one another from different devices.

EXPERIENCE

National Currency Technologies INC – Ashburn, VA September 2024-Current
Software Engineer Researcher

- Designed and implemented modifications to enhance functionality and security of a complex ledger system.
- Developed knowledge in C to analyze, modify, and optimize complex software systems.
- Reviewed software documentation and source code to thoroughly understand software functionality.
- Gained proficiency in CUDA, applying it to develop impactful projects and displaying its benefits.
- Contributed to collaborative discussions on software, company objectives, and research initiatives