Joshua Bisdorf

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Education

University of Michigan August 2022 – December 2025
Bachelor of Computer Science in Engineering *Ann Arbor, MI*

Relevant Coursework: Data Structures & Algorithms, Software Engineering, Computer Security, Machine Learning, Computer Vision, Computer Organization, Cryptography, Logic Design, Data Science, Extended Reality

Work Experience

KBR, Inc. | *MATLAB* May 2024 - August 2024
Software Developer - Intern *Ann Arbor, MI*

- Standardized and unit tested a set of coordinate transformation tools (e.g. lla2ecef, ecef2enu, and radians2utm)
- Cleaned a binary image by removing spurious points and connecting discontinuous points
- Developed a toolset for plotting objects in a 3D space on a figure of the earth (e.g. beam patterns, iso-range spheres, iso-Doppler cones, velocity vectors, and arcs & angles)

Harman International | *Arduino, C#, HTML/CSS, PHP, SQL* May 2023 - August 2023
System Test Engineer - Intern *Novi, MI*

- Worked on the Harman Phone Management System, an internal project used for storing, locking, and managing the phones that System Test Engineers use
- Created a self-signed SSL certificate using a command line tool called OpenSSL to make the site run on HTTPS
- Secured usernames and passwords on administrative pages by basing logins on PHP sessions
- Added a 'delete user' interface to remove users from a MySQL database and their fingerprint files from storage
- Wired a deadbolt lock to an Arduino microcontroller, and connected it to the system allowing for the deadbolt to open based on the click of a button in the website and lock automatically upon the door being closed

Software Projects

Travelling Salesperson | *C++* April 2023

- Understand and implement minimium spanning tree (MST) algorithms
- Be able to determine whether Prim's Algorithm or Kruskal's Algorithm is more efficient for a particular scenario
- Understand and implement a Branch and Bound algorithm
- Develop a fast and effective bounding algorithm for the TSP

Back To The Ship | *C++* January 2023

- 3D Maze: read, store, access, and write to a 3D vector
- Breadth-first search (BFS w/ queue) and depth-first search (DFS w/ stack) path finding algorithms
- Use *getopt_long()* to handle command line arguments

Technical Skills

Languages: Arduino, C#, C/C++, HTML/CSS, Java, MATLAB, PHP, Python, SQL
Technologies: Eclipse, GitHub, Google Drive, LaTeX, Microsoft 365, MySQL, Linux, Unity, Unreal Engine, VS Code