Asher M. Rosen

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EDUCATION

University of Tulsa | Tulsa, OK   **8/22 – 5/26**
B.S Computer Science, Data Science, Applied Mathematics *(Triple Major)*
Relevant Courses: Database Systems, Statistical Pattern Recognition, Statistical Modelling, Operating Systems, Numerical Methods, Real Analysis, Computer Networks, Software Engineering, Computer Assembler and Architecture, Discrete Mathematics, Data Structures, Computer Algorithms, Data Curation, and Programming Practicum

SKILLS

Programming: C++, C, Python, Java, HTML/CSS, SQL
Frameworks/Tools: Git, GTest, Gitlab, Conan, Cmake, Docker, ESP32, ESP8266

EXPERIENCE

L3Harris | Tulsa   **5/25 - Present**
Software Engineer Intern
- Developing C++ software to connect new defense hardware systems to a variety of computer vision tasks. Working with a variety of hardware interfaces for sensor turrets. Using GitLab CI/CD, unit testing, and secure development environments to ensure functionality, maintainability, and test coverage.

Army Corps of Engineers | Tulsa   **4/24 - 5/25**
Security Researcher
- Worked full time as a Security Researcher on an Army Corps of Engineers grant at the University of Tulsa. Researched wireless traffic capture, analysis, and fingerprinting. Developed an affordable tool for capturing full Bluetooth connections and their device fingerprints.

PROJECTS

Dallas GTFS (General Transit Feed Specification) feed https://github.com/AMR1234567891011/dartgtfs
- Most large cities have a public GTFS feed that lets users hit an API to get real-time data about public transportation in their area. Unfortunately, Dallas does not let the public access their feed, however, Dallas has a public webapp in which all commuter train locations and associated metadata are sent to the end user. Using this data from the webapp, I implemented a GTFS real-time feed in a docker container. Users can run this container and use standard google GTFS packages to process transit data.

Ashers Cryptographic Function Library https://github.com/AMR1234567891011/ashersfunctionlib
- Implemented SHA-256/HMAC, HKDF, X3DH, and X25519 from scratch using C and compiling for web targets. Researched and studied cryptographic algorithms and security standards used in secure software. Implemented a basic web messenger using these functions together which roughly followed the 'signal protocol'.

Wordle Project https://github.com/AMR1234567891011/multiplayer-word-game
- A wordle game, similar to the New York times version, except there is no restriction on the number of games you can play each day. A versus feature was also added, allowing players to try and guess the same word while their previous guesses are displayed to the other player. Django was used for this project.

ACTIVITIES

Association of Computing Machinery University of Tulsa   **8/22 - Present**
Vice President & Treasurer
- Coordinate events and ensure proper funding channels are used. A notable event is the risk challenge when ACM programmed the board game risk with an API and had new computer science students compete for who had the best risk algorithm.

ICPC (Intercollegiate Programming Competition)   **1/23 - Present**
Competitor
- Participate and attend local ICPC competitions and practices for the TU ICPC club.

Boy Scouts
Eagle Scout with gold and bronze palms, and a brotherhood member of the Order of the Arrow (OA)