Sathya Ramanathan

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Education

Oregon State University | Sept 2015 – Sept 2019
- Bachelor of Science (BS), Computer Science
- Specialization in Cybersecurity

Projects

Personal Website | https://satcom237.github.io/website

Google Authenticator | C++
- Developed an application that uses a Time-Based One Time Password (TOTP) algorithm to generate One Time Passwords (OTPs) every 30 seconds
- Improves device security by 76% by incorporating two-factor authentication
- Implemented in C++ utilizing the HMAC-SHA1 function (OpenSSL Library)

Huffman Coding | C++
- Developed a lossless data compression algorithm that utilizes a binary tree
- Shrinks file sizes on average by 20% through finding the optimal character frequencies
- Implemented in C++ including the compression and decompression components

Restaurant Web-App | PHP
- Created the front and back ends with a group for a sample restaurant where users can log-in, reserve a table, view the menu, and redeem coupons
- Inserts and retrieves data from a MySQL database with efficient scalability
- Implemented in MySQL, PHP, and HTML/CSS

Ecological Footprint App | Java
- Calculates user's ecological footprint and provides sustainable local suggestions
- Incorporates a self-contained SQL database leveraging faster transactional speeds
- Implemented in Java (Android Studio) using SQLite and Google Location API

Skills

Languages: (*Proficient*): C, C++, Python, SQL, HTML/CSS (*Familiar*): Scala, Java, PHP, JavaScript

Tools: Docker, R, Git, Apache Spark, Hadoop, Node.js, MySQL, NoSQL, Jupyter Notebook, Databricks, YARA

Courses

Algorithms, Data Structures, Software Engineering I/II, Cloud/Web Development, Programming Language Fundamentals, Open Source Software, Operating Systems I/II, Theory of Computation, Computer Networks, Database Management Systems, Linux System Administration, Cryptography, Network Security, and Digital Forensics