

Peter Paulson

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Education

Santa Clara University, Santa Clara, CA Sept 2015 - June 2019
Bachelor of Science, Computer Science and Engineering
GPA: 3.3
Courses: Internet of Things, Cryptography, Computer Security, Embedded Systems, Object-Oriented Design, Compiler Construction

Projects

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- Senior Design** May 2018 - June 2019
- Designed and build a Python-based system to allow confidential data storage while under duress
 - Utilized an Oracle database to store encrypted user data
 - Implemented large random prime generation for use in the RSA key exchange protocol
- Cryptography** Jan 2018 - June 2018
- Decrypted a set of encrypted files using frequency analysis, pattern matching, and other cryptographic attacks
 - Implemented the SHA-3 hashing algorithm
 - Implemented a simplified version of the AES encryption algorithm using 16-bit keys
- Internet of Things/Resource-Constrained devices** Jan 2019 - June 2019
- Built an MQTT server on a Raspberry Pi and other RTOS devices
 - Configured an nginx server to broadcast video from a webcam to the Internet
 - Built a command-line LED controller for external lighting using UART and a Raspberry Pi
 - Used OpenCV to create and train a facial recognition system
- Object-Oriented Design** Sept 2017 - June 2018
- Built a system to track, display, and manage business owned by SCU alumni, including an Oracle backend and SQL query generation for users to add and edit their own accounts and listings
 - Implemented an interactive campus map that included order processing to on-campus cafés
- Personal**
- Built a Discord server bot using Python in order to manage a medium-size personal server
 - Implemented a system to graphically render fractals and other mathematical shapes in Java using the Graphics class

Work Experience

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- Catholic Charities of Santa Clara County**, Volunteer
Jan 2017 - April 2017
- Created lesson plans and materials for 4th and 5th grade students
 - Taught basic STEM concepts such as electrical circuits, elementary programming, and problem solving skills

Skills

Python, Java, C, Git, Oracle,
Linux, OpenCV,
Pycryptodome, Eclipse,
Agile, OOP, SQL