

Justin W. Smith

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EDUCATION

University of Hawai'i at Mānoa

Honolulu, HI

Bachelor of Science in Computer Science

Expected Graduation, Spring 2026

- **Concentrations:** Software Engineering, Back-end Development
- **GPA:** 3.9/4.0
- **Related Coursework:** Program Structure, Discrete Math, Algorithms, Software Engineering, Data Structures & Algorithms, Object-Oriented Programming, Objects & Design, Computer Organization & Programming
- **Dean's List:** Every semester for academic excellence

PROJECTS

Study Buddy | *React, PostgreSQL, Vercel*

December 2024

- Developed a full-stack web application to connect students for study sessions
- Implemented authentication and user management features including email verification and password reset
- Designed and developed user-friendly interfaces for joining or creating study groups
- Deployed the application using Vercel for fast and efficient hosting
- Collaborated on creating a calendar feature to help users manage their joined study sessions

Polynesian Navigation Route Planner | *Java, Performance Optimization*

November 2024

- Collaborated on a project simulating resource distribution and tourism across the Polynesian Triangle
- Implemented graph algorithms, specifically Dijkstra's algorithm, to calculate the most efficient navigation routes
- Optimized the app's performance for real-time route planning and data retrieval
- Worked on improving the user interface to ensure a seamless experience for users
- Developed a detailed user guide for application usage and data interpretation
- Collaborated with team members to ensure scalability and maintainability of the system

Data Compression and Encryption | *Java, Secure Data Handling*

September 2024

- Collaborated on implementing effective compression and encryption techniques for secure data handling
- Developed Run-Length Encoding for data compression with $O(n)$ complexity
- Applied FFT-based lossy compression to reduce data size, optimized to $O(n \log n)$
- Designed and implemented RSA encryption and decryption using modular exponentiation for secure message transfer with $O(\log y)$ complexity
- Created detailed documentation outlining functionalities and algorithms
- Tested and optimized the system to maintain reliable performance across varying data sizes

Bank Database | *C, Makefile, Vim*

December 2023

- Developed a banking system to manage customer records using linked lists and text file storage
- Implemented essential banking functions such as adding, deleting, and modifying accounts
- Designed an intuitive text-based user interface for ease of interaction
- Added error handling to ensure robust operation under various edge cases
- Created automated tests to validate banking operations and ensure system stability
- Implemented security features to handle user data with a focus on safe password storage

TECHNICAL SKILLS

Languages: Java, Python, JavaScript, HTML/CSS, SQL, Node.js, React.js, C++, C

Frameworks: React, Node.js, Next.js

Developer Tools: Git, VS Code, Visual Studio, Vim, Makefile

Libraries: pandas, NumPy, Matplotlib

Other Skills: Completed Honolulu Marathon in December 2024