

Sofia Petrova

Computer Science Major, UCSC

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EXPERTISE

Third-year Computer Science at UC Santa Cruz. Highly motivated, with strong background in project management, group coordination, leadership skills, and extensive experience in programming languages, human-machine interaction design, documentation, graphic design and digital art.

WORK EXPERIENCE

Open source embedded debugger. Designed and programmed a full-stack serial debugger for open source projects: 3D design, MCU embedded code (C++ for Atmel), LCD screen, and serial protocol.

Python Tutor, University of California, Santa Cruz, CA. Taught Python programming language to undergraduate students. Developed lesson plans for current and future use. Graded code based on functionality, readability and documentation.

Activities Director, Boy Scouts of America, Cazadero, CA. Managed and monitored program activities for teens and adults and evaluated quality for improvement. Developed programs and lesson plans. Organized weekly field trips outside of the program area by coordinating with both my supervisors and the supervisors of youth.

Digital Technology Tutor, Boy Scouts of America, CA. Taught skills relating to digital technology and communication. Integrated technology into sessions to further enhance student learning.

PROJECT PORTFOLIO

C Library for file compression and decompression using modified binary stream Huffman Encoding.

C Library for RSA Asymmetric Encryption and Decryption with arbitrary precision integer arithmetic.

Video Game design: "Fate of the Dragon Princess", developed on Construct 3 Game Engine. The game presented three quests to the player.

Text-based Interactive Game design: "Liminal", developed on Twine. The game is a survival quest in an unfamiliar environment.

GUI Mockup / Wireframe in Adobe Illustrator for a chat app.

Web App Concept for a job shadowing matchups matching students to recruiters.

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CORE CLASSES

- Assembly System Programming
- C Programming
- Programming Abstractions in Python
- Data Structures and Algorithms
- Object Oriented Programming
- Digital Tools Art
- Design Research
- 3D Modeling
- Game Systems
- Foundations of Game Design

SKILLS

Programming Languages

- Java
- Python
- C / C++
- C#

Design

- GUI Design
- 3D Modeling
- Unity
- Figma

Soft Skills

- Version Control (GitHub, Subversion)
- Cybersecurity
- Data Analysis
- Programming Documentation
- Adobe Photoshop, Premiere, and Illustrator
- Conflict Resolution and Communication
- Project Coordination
- Mandarin Chinese Fluency