Frank Forliano

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EDUCATION

University of Iowa

Iowa City, IA

Bachelor of Arts in Computer Science

Aug. 2018 - July 2024

PROJECTS

Space Invaders Game $\mid C++, OpenGL, GLFW$

August 2024

- Rebuilt the classic 1978 arcade game Space Invaders from scratch using C++ and the OpenGL library GLFW.
- Developed basic tests to ensure functionality and stability.
- Wrote basic documentation outlining the important details of the process.

TCP/IP Stack | C, Linux, NMap

Aug 2024 – Current

- Designed and implemented a custom TCP/IP stack from the ground up, including essential networking protocols such as TCP, IP, and ICMP.
- Developed IPv4 and ICMPv4 protocols to manage data packet routing and error handling.
- Implemented TCP Handshake to ensure that a secure and reliable connection is created to transmit data.

C++ Concepts and Programming Techniques | C++

June 2024 – Current

- Summarized key concepts and programming techniques from Bjarne Stroustrup's C++ book.
- Created comprehensive notes and examples to illustrate fundamental C++ features such as templates, exceptions, and the Standard Template Library (STL).
- Developed small projects to demonstrate the application of advanced C++ concepts in real-world scenarios.

Unix Socket Programming Projects | C, Unix

July 2024 - Current

- Implemented various networking projects based on concepts from the Unix Socket Programming book.
- Created client-server applications using both TCP and UDP protocols to explore socket programming.
- Developed detailed documentation and examples to demonstrate network communication and data transfer techniques.

EXPERIENCE

Piano Instructor

April 2022 – Present

Based in the Midwest Iowa City, IA

- Taught multiple students, typically Adults who are in Graduate School or pursuing higher education.
- Planned and conducted lessons focusing on the foundations of the Josef Lhevinne school of piano playing and music theory.
- Authored educational articles on Medium to assist conservatory piano students with advanced topics.

TECHNICAL SKILLS

Languages: C++, Python, C, Java, SQL, HTML/CSS

Developer Tools: Git, Docker, Vim, nginx, AWS, Linux, JUNIT, Certbot, NMap

Libraries: pandas, NumPy, scikit-learn, matplotlib, OpenGL,