Coriander V. Pines

+1·213·219·4172
hello@corianderpines.org

Key Skills

Programming Languages: .NET/C# · Python · NumPy/SciPy · C++ · JUCE · OpenGL · MATLAB · SQL
Audio: Digital Signal Processing · Virtual Analog Synthesis and Filtering · Modular Synthesizers
Software Engineering: Asynchronous Programming · Architecture Design · Defensive Design · Continuous Integration · Testing Strategies and Automation · Realtime Systems · Resource-Constrained Environments · Embedded Systems · Performance Optimization Numeric Simulation · Data Acquisition and Conditioning · Backend Web Development
General: Technical Writing · Research and Analysis · Data Visualization · Rapid Prototyping

Work Experience

Future Audio Workshop   *Software/Graphic Design Contractor*   Boston, MA   2024 – Present
· Designed and built reactive visualizers for audio synthesis plugin in C++/GLSL.
· Implemented UI/UX design for JUCE plugin, including custom components.

Slime Child Audio   *Founder, Audio Software Developer*   Seattle, WA   2019 – Present
· Designed, developed, and released acclaimed suite of cross-platform music production plugins in C++.
· Implemented, tuned, and optimized DSP algorithms incl. virtual analog and phase distortion synthesis.
· Worked with professional musicians to fine-tune user experience and sonic palette.
· Fostered cohesive visual language using custom-rendered 3D GUI components and design.
· Authored educational material for both technical and lay audiences.
· Taught as a guest lecturer on music technology at SUNY Purchase College.

Harebrained Schemes   *Senior Software Engineer*   Seattle, WA   2020 – 2023
· Led development for studio's first console video game release.
· Planned, implemented console support for Unity game: platform integration, certification, and release.
· Architected and authored multiple internal libraries in C# and Python, including frameworks for asynchronous programming, static code analysis, offline Unity asset manipulation, and app lifecycle.
· Created automated error reporting system leading to significant reduction in bugs.
· Wrote extensive documentation on console development and requirements.

Bose Corporation   *Software/Firmware Contractor*   Framingham, MA   2018 – 2019
· Created and maintained extensible software library for interfacing with audio hardware platform.
· Developed and implemented realtime sound spatialization algorithm.
· Assisted with embedded firmware development and testing.
· Designed product demos, use cases, and diagnostic tools.

Zapdot, Inc.   *Software Contractor*   Cambridge, MA   2018 – 2019
· Developed novel object placement and manipulation algorithm for touch interfaces.
· Built custom physics simulation including stability prediction and movement assistance.
· Developed comprehensive product testing regimen, automated testing platform, and QA tools.

Northeastern University   *Fabrication Lab Supervisor*   Boston, MA   2017
· Prepared, and optimized student work for fabrication using laser cutter, CNC router, and 3D printer.
· Supervised and assisted students with all aspects of creating architectural and sculptural projects.
· Developed novel CNC optimization algorithm to increase machine throughput.

Planetary Resources   *Embedded Systems Intern*   Seattle, WA   2016
· Created ground control software for asteroid prospecting satellite, with emphasis on accident-prevention, reliability, and usability.
· Designed and implemented development, testing, and debugging toolset for aerospace platform.
· Developed and executed extensive manual and automatic testing routines.
· Designed, fabricated, and deployed a distributed IoT sensor node platform for agriculture applications.

Education

Northeastern University   *Undergraduate Degrees*   Boston, MA
BS Mathematics · BFA Media Arts · Game Design Minor · GPA: 3.92 (Summa Cum Laude) · CS Capstone
University Scholars Program · Honors Program · Meserve Award for Creative Excellence · Prototype
Grant Recipient · Indie Game Showcase Award · American Institute of Aeronautics and Astronautics

École Polytechnique Fédérale de Lausanne   *Continuing Education*   Lausanne, Switzerland
Completed 10-week graduate-level Digital Signal Processing course (with distinction)