

Alex Saalberg

alexsaalberg@gmail.com

alexsaalberg.com

(949) 528-5222

EDUCATION

California Polytechnic State University - San Luis Obispo, CA

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Bachelor of Science: Computer Science, Minor: German

SOFTWARE PROJECTS

Remote-File-Copy C, UDP 2018

- ❑ Released 2 program server/client project for downloading files remotely.
- ❑ Designed custom layer 4 protocol for transmitting data using POSIX Sockets
- ❑ Implemented error-control (ARQ) for reliable data transmission over UDP

TCP Chatroom C, TCP 2018

- ❑ Created 2 program server/client project used to chat remotely
- ❑ Constructed a custom Layer 4 protocol built on TCP

Base-ic Data Scala, Apache Spark 2017

- ❑ Analyzed effect of MLB pitch type on hitter performance using distributed computing
- ❑ Utilized Scala and Apache Spark, the in-memory cluster-computing framework.

ARM Emulator C++, ASM 2016

- ❑ Implemented logic of ARM Thumb-Mode assembly instructions for virtual machine

GAME PROJECTS

Game of Stones C++, git, CMake, GLSL In Progress

- ❑ In-progress 3D Voxel-Terrain, "Colony Management" video game
- ❑ Creating a custom 3D C++ OpenGL 'Voxel' Engine using the PolyVox library

Helico-opter C++, git, CMake, GLSL Released 2018

- ❑ Released a co-operative side-scrolling 'arcade' video game
- ❑ Collaborated on a 6 person graphics project over the course of 10 weeks
- ❑ Designed a custom 3D C++ OpenGL Engine using GLFW and GLAD
- ❑ Implemented a semi-fixed timestep with implicit euler integration and interpolation
- ❑ Integrated Box2D physics library

Dead Giveaway Java, SVN, JSwing, Junit, Mockito Released 2016

- ❑ Released a turn-based networked card game (rules based on Clue the Card Game)
- ❑ Managed a 6 person software engineering team for 6-months
- ❑ Developed a GUI using Java Swing, and a network protocol using Java.net
- ❑ Implemented the Model-View-Controller user interface architectural pattern
- ❑ Contributed to full unit test coverage using the JUnit and Mockito frameworks

Restart Java, Greenfoot Released 2013

- ❑ Developed a top-down 2D stealth/puzzle game using the Greenfoot IDE and Engine
- ❑ Contributed to a 10 week, 4 person game design project

SKILLS

Programming Languages: C++, C, Java, Python, GLSL, Asm(Arm), SQL, C#, SML, Lua

Frameworks/APIs: OpenGL (GLFW), Boost, JUnit, Mockito

Software: Git, SVN, Unix (Vim, GDB, common libs, etc.), XCode, Adobe Premiere

Spoken Languages: English (native), German (proficient)