Alex Saalberg

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EDUCATION

California Polytechnic State University - San Luis Obispo, CA   June 2018
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`   Released 2018
- ❏ Released a 3D Voxel-Terrain, "Colony Management" video game
- ❏ Created a custom OpenGL 'Voxel' Engine using the PolyVox and BulletPhysics libraries

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)