

# Alex Saalberg

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Mission Viejo, CA

## EDUCATION

California Polytechnic State University - San Luis Obispo, CA

June 2018

**Bachelor of Science:** Computer Science, **Minor:** German

## SKILLS

- ❑ **Languages:** Java, C++, C, Python, SQL
- ❑ **Tools:** Windows, macOS, Linux | Xcode, Tmux, Vim, GDB, Git

## SOFTWARE PROJECTS

- |   |              |      |
|---|--------------|------|
| Tmux-Notepane   | Python, Bash | 2018 |
| <ul style="list-style-type: none"><li>❑ Created a plugin for tmux (terminal multiplexer) using libtmux (python library)</li><li>❑ "Hit a binding to open a personal note-file based on the current terminal program"</li></ul>  |              |      |
| Remote-File-Copy  | C, UDP       | 2018 |
| <ul style="list-style-type: none"><li>❑ Released 2 program server/client project for downloading files remotely.</li><li>❑ Designed custom layer 4 protocol for transmitting data using POSIX Sockets</li><li>❑ Implemented error-control (ARQ) for reliable data transmission over UDP</li></ul> |              |      |
| Base-ic Data  | Scala, Spark | 2017 |
| <ul style="list-style-type: none"><li>❑ Analyzed effect of MLB pitch type on hitter performance using distributed computing</li></ul>   |              |      |
| ARM Emulator  | C, ASM(ARM)  | 2016 |
| <ul style="list-style-type: none"><li>❑ Implemented logic of ARM Thumb-Mode assembly instructions for virtual machine</li></ul>   |              |      |

## GAME PROJECTS

- |   |                              |      |
|---|------------------------------|------|
| Game of Stones  | C++, GLSL, CMAKE             | 2018 |
| <ul style="list-style-type: none"><li>❑ Released a 3D Voxel-Terrain, "Colony Management" video game prototype</li><li>❑ Created a custom OpenGL 'Voxel' Engine using PolyVox and BulletPhysics libraries</li></ul>  |                              |      |
| Helico-opter  | C++, GLSL, CMAKE             | 2018 |
| <ul style="list-style-type: none"><li>❑ Released a co-operative side-scrolling 'arcade' video game</li><li>❑ Collaborated on a 6 person graphics project over the course of 10 weeks</li><li>❑ Designed a custom 3D C++ OpenGL Engine using GLFW and GLAD</li><li>❑ Implemented a semi-fixed timestep with implicit euler integration and interpolation</li></ul>             |                              |      |
| Dead Giveaway   | Java, Jswing, Junit, Mockito | 2016 |
| <ul style="list-style-type: none"><li>❑ Released a turn-based networked card game (rules based on Clue the Card Game)</li><li>❑ Managed a 6 person software engineering team for 6-months</li><li>❑ Developed a GUI using Java Swing, and a network protocol using Java.net</li><li>❑ Contributed to full unit test coverage using the JUnit and Mockito frameworks</li></ul> |                              |      |

## EXPERIENCE

World Elite Gymnastics – Rancho Santa Margarita, CA

2010–2013

Front Desk / Computer Support

- ❑ Advised and enrolled hundreds of clients into gymnastic courses
- ❑ Maintained computer systems required for daily business operations