

Skills

- *Team Leadership*: **6+ years leading development teams** of approximately 5 direct reports at all levels. Passionate about employee advocacy while also engaging in performance reviews, mentorship, and budget strategy.
- *Business Integration*: **6+ years identifying business needs**, risks, and generating technical requirements by participating in requirements gathering and stakeholder discussions. Served as technical lead to align progress with business strategy while ushering projects through design, implementation, and delivery.
- *Software Engineering*: **15+ years building software for many domains**. Problem solving, multi-tasking, communication, learning agility, time management, attention to detail. Distributed and local image analysis, distributed and local image analysis, interactive realtime mechanical simulation development, massively multiplayer game client, interfacing with various COTS sensors from embedded and Linux platforms, image stitching and stabilization.
- *Programming*: Advanced to expert level experience in **C++ 12+ years**. Intermediate to advanced **C# 6+ years**, **GLSL**, Python, JavaScript, TypeScript, **Rust**
- *Technologies and Tools*: **git**, **JIRA**, **GitLab** including **CI**, **Docker**, **SQLite 3**, **CMake**, **OpenGL**, Unreal Engine 3, Unity, GTK, Arduino, RP2040, WASM, \LaTeX
- *Game Development*: **Shipped 1 AAA title**, and **5 DLC packs** and currently building a bespoke voxel-based fully destructive FPS with modern rendering engine. Longtime passion for this field.

Work History

Flagship Biosciences, Inc.

Broomfield CO

Flagship is a leading provider of pharmaceutical services in the drug development and oncology space. My time at Flagship involved building a team to help advance the state of computational pathology and developing and maintaining industry-leading tools with a focus on maintaining a very high level of quality.

- **Manager of Software Development** **(Apr 2017 - Present)**
 - Led team through **19 software releases**, including 1 total paradigm replacement and 1 complete operating environment replacement achieving **0 hours downtime in Production**.
 - Led team on development of new clinical diagnostics tool supporting machine-to-machine automated analysis workflows with integrated checkpoints for manual analyst and pathologist review.
 - Participated and instrumental in requirements gathering and design review.
 - Interfaced with non-technical stakeholders to determine platform and system goals and requirements.
 - Instituted cross-team communications channels and worked to improve collaboration and coordination with internal users.
 - Developed, instituted, documented, and owned the **SDLC** including QA and release procedures, as well as **CI** and deployment support.
 - Established and maintained evolving documentation of the software development process.
 - Initiated and guided **QA** review process revampment resulting in a more streamlined reporting process and increased accountability.
 - Individual contributor and subject matter expert on various projects, including ownership of the internal pyramidal image exporter and viewer, and a GPU-accelerated snapshot export tool supporting gigapixel image regions.
 - Reorganized and flattened source code repository, consolidating external dependencies where needed and decreasing complexity of heavily submoduled repository.

• **Software Engineer**

(Mar 2016 - Apr 2017)

- Owned, designed, implemented, and maintained slide-viewing software.
- Built SQLite3 extension and Windows thumbnail handler for storing and rendering thumbnails of internal proprietary image format.
- Built in-application micrometer-accurate measurement tool
- Integrated Fluentd library and annotated various portions of the slide-viewing experience with auditable logging hooks.
- Designed and implemented a minimap system for keeping track of location when viewing large images at native resolutions.

New Frontier Global, LLC / Global Remote Technologies

Centennial CO

NFG/GRT is a small startup in the oil and gas industry supporting upstream, downstream, and midstream spaces with a focus on data acquisition from remotely-fielded sensors.

• **Lead Software Engineer**

(Jan 2014 - Jan 2016)

- Engineering and team lead on a bespoke system built to monitor sensors in remote oil fields.
- Designed and documented remote logging system utilizing websockets and providing ability to filter by verbosity level.
- Identified requirements for and led procurement of sensor hardware.
- Designed communication protocols and spearheaded implementation of system for accessing disparate sensor implementations and providers via a common interface.
- Architected and guided development of data acquisition backend and web-based frontend.
- Designed, prototyped, built, and tested portable rack-based hardware package.
- Selected and field-tested remote communications tools and packages including portable satellite communications and industrial cellular hotspots.
- Wrote system for acquiring data from wireless J1939 vehicle bus equipment.

New Frontier Innovations for Sierra Nevada Corporation

Centennial CO

Engineering talent outsourcing provider working with Sierra Nevada Corporation to build training systems for DoD clients. Held TS/SCI clearance for this position.

• **Software Engineer**

(Jan 2013 - Jan 2014)

- Co-lead on bespoke electro-optical infrared gyroscopically stabilized turret sensor simulation framework providing training for sensor operators without expensive aircraft time.
 - * Extended simulation framework with a plugin system in C#.
 - * Designed and built realtime mechanical and optical simulator.
- Built multistation low-latency VoIP radio simulation enable cost-effective training of sensor operators.
- Researched, prototyped, and led development of render injection overlay tool allowing use of custom rendering framework with any third party Heads-Up Display simulation provider.

Sony Online Entertainment

Austin TX

AAA game development studio building DC Universe Online, a massively multiplayer action role-playing game in the DC Comics universe.

• **Client Programmer II**

(Oct 2008 - Dec 2012)

- **Shipped 1 AAA title.**
- Additionally **shipped 5 DLC** extension packs.
- Implemented client-side portion of player-driven in-game housing system.
- Designed and implemented two-tiered client-side anticheat system resulting in 20% drop in number of cheaters.
- Developed a “3D screenshot” tool for marketing purposes.
- Assisted with integrating new Unreal Engine version updates.
- Built and solely maintained PlayStation Trophy and Steam Achievement systems.

- Developed publish process for PlayStation 3 hard drive and Blu-Ray deployments.
- Built and maintained in-game “Communicator” NPC→player messaging system.
- Maintained PC and PlayStation 3 crash reporting systems, including developing map export and crash visualization tools resulting in increased ability to respond to and improve player experience.

United States Air Force

Staff Sergeant

Communications - Computer Systems Programming Journeyman (Jul 2003 - Oct 2008)

While serving in the USAF I was quickly promoted to a rank of Staff Sergeant after graduating top of my class from Airman Leadership School. Additionally I was selected as Air and Space Operations 2nd Air Force Airman of the Quarter twice in a row, recognized for my volunteer efforts, awarded an incentive flight on an F-16, served as Self-Aid Buddy Care instructor and Anti-Terrorism/Force Protection representative and Physical Training Leader. I was instrumental in reducing costs and time related to various USAF missions including lowering the overhead of updating F-16 Task Training Lists by 30% annually and saving the USAF over \$3M in training costs for the E-3C AWACS. I served as the software engineering lead on various programs, leading the performance of requirements gathering, technical document writing, design specification, design implementation, and testing and maintenance of various development efforts including E-3C AWACS Part Task Trainer, B-1B Crypto Fill Part Task Trainer, CDU-900 Computer Navigation Management System, and numerous Software Emulation Trainers and Web Based Training modules.

Novel Pursuits and Personal Projects

- ENShooter - Voxel-based fully-destructible-environment old-school first person shooter featuring advanced off-grid voxel world rendered with modern PBR and deferred rendering techniques.
- Operation StratoSphere - High altitude balloon project featuring 360x180 degree image and video capture from over 100,000 feet in elevation as well as realtime tracking on a web-based map.
- Engineer’s Nightmare - Voxel based space station building game with atmospheric simulation and featuring user-generated wired and communication systems.
- OpenRA - Open source RTS engine featuring support for Westwood Studios games Red Alert, Command & Conquer, Dune 2000, and others.
- When something piques my interest I have a tendency to dive deep. Example include, but are not limited to, **CAD**, **3D printing**, prototyping, high altitude ballooning, woodworking, amateur radio, harmonica. Always happy to talk about any of these in extensive detail.