

Gerald Spencer

Multi-dimensional mechanical engineer passionate about:
Devops, Engineering management, Fluids, Mechatronics and Thermal design

Education

2010-2014 **BSc, Mechanical Engineering W/ USCG License**
California Maritime Academy (Vallejo, CA)
Licensed United State Coast Guard 3rd Assistant Engineer

Experience

- 2019 - Present** **Strateos - Director of Production Engineering**
Facilitate designing, developing, implementing and operating the robotic drug discovery labs of the future.
- 2015 - Present** **Flux Foundation - Lead technologist**
- Project management for a small team of roughly 10 artists of various disciplines
- 2013 - 2019** **3Scan - Director of Production Engineering**
Oversee a multi-disciplinary agile team of around 15 from hardware to software engineers, and biologists to product specialists to develop a high-resolution/high-throughput 3D medical imaging system.
- Engineering project management from ideation to on-going maintenance
 - High throughput imaging system(s) both mechatronics design and software design
 - Agile methodologies for both hardware and software projects and products
- 10/2018 - 9/2019** **The Folly - Electrical and Lighting lead**
- Development of structure's power distribution and electrical layout
 - Exterior and interior lighting design
- 1/2018 - 9/2018** **Temple Galaxia - Project Manager | Lighting lead**
- Engineering project management between 3 timezones
 - Oversaw a crew of 7 individuals from electrical engineers to artists
 - Development of structures electrical schematic to CA Title 24 standards
 - Lighting design: Custom PCB circuit boards, manufacturing and layout
 - Custom software architecture and compute hardware to control 1200 addressable incandescents light bulbs

1/2018 - 9/2018 **Temple 2017 - Lighting lead**

- Development of structures electrical schematic to CA Title 24 standards
- Automated lighting controls allowed hands-free operation during the event

1/2016 - 10/2016 **Black Rock Lighthouse Service - Lighting lead**

- Oversaw an electrical team of 3 individuals
- Development of structures electrical schematic to CA Title 24 standards
- Fire design: Custom fire effects protocol via GRPC, Linux and network installations
- Lighting design: Custom protocol for DMX over Ethernet to wirelessly modulate Color Kinetix

4/2011 - 4/2013 **Taylor Collaboration - Engineering Intern:**

Orthopedics bio-mechanical testing facility working with the medical industry to redesign and improve total knee and hip replacements

- Validated the improvement of a new method for a tibial tubercle osteotomy
- Designed a test setup to simulate humans striking their hip during falling in normal gait

Technical Experience

Software/System Design

Production ready systems should be modular, tested and well documented. Development environments and deployments must to be reliable, repeatable and consistently deployed/monitored to ensure there is no drift from code to infrastructure.

Extensive experience with the following:

- **Build systems:** Bassel, Gradle, Lerna, Maven, Tox
- **CI/CD:** AWS CodePipeline, Buildkite, CircleCI, Jenkins, Travis
- **Cloud Infrastructure:** All things compute, networking, storage, security, AI/ML related to AWS or GCP
- **Configuration Management:** Ansible, Puppet, Terraform
- **Containers/Micro-services:** Docker, Docker Compose, Docker Swarm, ECS, Jib, Kubernetes
- **Development Environments:** AWS Cloud9, Docker, IntelliJ, Vagrant
- **IT/Networking:** Manage 3Scan's AS, BGP peering with multiple ISPs and AWS. Cisco/JunoOs you name it!
- **Languages:** Bash, C, C++, Groovy, Java, Javascript, .Net, Node, Python, Scala, Typescript
- **Monitoring/Telemetry:** Centralized logging, Elk, Grafana, Graphite, Prometheus
- **Operating Systems:** At home in linux or windows
- **Testing:** Junit, PyTest
- **Version Control:** Git, Github, Gitlab, Phabricator

Engineering Management

Together we can create something that any individual or single team can imagine!

- **Agile methodologies:** Applied to both software and hardware
- **Project management:** From gantt charts and QFDs to task management and KPIs
- The customer experience is key, dog-fooding is a must
- Have overseen complex multi-disciplinary teams from 2 to 20 engineers

Fluidics Design

A beautifully complex field that has enabled humans to reach the moon, or replace a worn aortic valve.

- **CFD:** Fluent, Solidworks

Mechanical Design

Machinist in my heart. Deep knowledge of kinematics, rapid prototyping, Newtonian mechanics, gears, and standardized materials

- **CAD:** Solidworks, Creo/ProE
- **FEA:** Abaqus, Solidworks, Creo

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