

connor.r.passe@gmail.com
651-492-2313

Connor Passe
connorpasse.com

linkedin.com/in/connor-passe/
github.com/connor-passe

EDUCATION

Duke University

Bachelor of Science in Mechanical Engineering

Durham, North Carolina

May 2021

- **GPA:** 3.6/4.0

EMPLOYMENT

AML Group

Co-Founder / Software Engineer

Durham, NC

Sept. 2021 – Present

- Awarded \$900,000 Department of Defense subcontract to perform R&D services for US Army Special Operations Command.
- Led team of 6 engineers to develop Machine Learning models to provide efficient, on-device wireless signal propagation modeling to enable troops to evade adversarial radio jamming using mobile Android devices.
- Trained and evaluated models including neural nets, random forest, and regression-based models.
- Personally developed novel, Google-based Controlled Unclassified Information (CUI) workspace, compliant with NIST 800-171 cyber security requirements leveraging FedRAMP compliant applications.

First Light Asset Management

Analyst

Minneapolis, MN

May 2020 – Aug. 2020

- Developed various python web-scraping scripts to automate downloads from SEC EDGAR database and Wells Fargo client trade-confirmation web portal.
- Performed primary research on public and private biotech companies alongside analyst team.

PROJECTS

On-Device Signal Propagation Modeling iOS App

GitHub: <https://github.com/connor-passe/Sig-Map>

Articles: [ML Model](#), [iOS App](#)

- Individually developed iOS app capable of performing on-device wireless signal propagation modeling leveraging a custom trained TensorFlow Deep Neural Net.
- Converted TensorFlow model into mobile-optimized model using Apple's CoreMLTools framework.
- App leverages the SwiftUI framework and allows the user to select transmission frequency, location, and heatmap prediction radius.
- Colored heatmap corresponding to the predicted signal loss is overlayed on the map.
- Achieved >200 square kilometer heatmap generation in under a minute during real-world testing.

Vitreoretinal Surgical Medical Device

Link: <https://connorpasse.com/projects/2021/05/05/Medical-Device.html>

- Led a team of 9 retinal surgeons / engineers to design an integrated electronic medical device for improving vitreoretinal surgery.
- Filed a provisional patent in coordination with Duke Office of Licensing and Ventures.
- Rapidly iterated over 10 prototypes in two-week sprints, each tested live in porcine (pig) eyes at the Duke Hospital Eye Center's wet lab.
- Designed custom circuit board, 3D-printed steel body, and power supply system for prototypes.

Weather Forecast Web App

GitHub: <https://github.com/connor-passe/weather-app>

Live Site: <https://connor-passe.github.io/weather-app/>

- Created weather forecast site that leverages an OpenWeatherMap API.
- Leverages JavaScript / HTML / CSS and bundled using webpack.
- Takes user location input and displays current weather conditions and daily forecast for upcoming week.

SKILLS, TOOLS & INTERESTS

Languages: Java, Python, Swift, JavaScript / HTML / CSS, MATLAB

Tools: TensorFlow, Git, SwiftUI, Webpack, Docker, AWS, Asana, Webflow, Solidworks, Fusion 360

Interests / Activities: Duke Basketball, SCUBA Diving, Volleyball, Cartography, Oatmeal Enthusiast, Travel