Vijay Stroup

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Education

The University of Central Florida
June 2018 - December 2022 (expected)
Major: Physics B.S.
Major: Computer Science B.S.
Minor: Mathematics
GPA: 3.6

Experience

Gator - Founder
January 2021 - Present
Python, Javascript, HTML, CSS, MongoDB, PostgreSQL, Redis, FastAPI, NextJS, Twilio, Docker, MySQL, PlanetScale, Typescript, tRPC, Prisma, TailwindCSS, Firebase, NextAuth

- Develop medical, developer, and other industry tools and applications to **help consumers do things easier** and for **businesses to increase their revenue**.
- Research and use modern technologies for **rapid and secure development**.

UCF Physics Department - Researcher
May 2019 - Present
Python, Matplotlib, Numpy, OpenCV

- Designed and wrote logic for **locating atoms in space relative to each other** in a given compound for a project that predicts states of matter given the geometry of a compound.
- Designed and wrote methods for **analyzing LEEM data** to show the **time-area relation** of Lead growing on a Germanium 111 surface.

L3Harris - Software Engineer Intern
May 2022 - July 2022
Python, Matplotlib, Numpy, Open3D, Streamlit, Tensorflow, Scipy, Plotly, Docker, Point Clouds

- Created a CLI tool to **generate 200GB+ of synthetic data** transformations from Point Cloud scans.
- Created a web application to **demo our data pipeline** to customers, show **real-time machine learning training statistics**, and **demo model prediction** given a real world input.
- **Trained Tensorflow machine learning models** and c**ompared different methods of model optimization** for the most accurate and fastest predictions.
- Decreased object detection evaluation time from **2 minutes to 20 milliseconds.**

Skills

- **Languages:** Python, Typescript, Javascript, NodeJS, C, Go, Java, C++ (C++17), HTML, CSS, NoSQL, SQL
- **Frameworks:** FastAPI, Flask, PostgreSQL, MySQL, MariaDB, SQLite, MongoDB, NextJS, ReactJS, Numpy, Matplotlib, Pandas, OpenCV, Redis, PyTorch, Django, TailwindCSS, React Native, tRPC, Prisma, Open3D, TensorFlow, Cobra, NextAuth, Streamlit, Stripe, Twilio, Sendgrid
- **Tools:** Linux/Unix, Git version-control, Visual Studio Code, Docker, Linode, Firebase, PlanetScale, Figma, GitHub
- **Certifications:** MS Excel, MS Outlook, MS PowerPoint, MS Word

Projects

UCF FE Practice
Python, Javascript, Beautifulsoup, ReactJS, NextJS

- Web application that **helps thousands of students** each semester prepare for the UCF Foundation Exam.

Bednotes
Typescript, ReactJS, NextJS, tRPC, Prisma, MySQL, PlanetScale

- Patient Overview system to **help hospitals view patient information** fast and easy.

Various Other Projects
Python, Javascript, Typescript, Go

- An array of different projects found on my website vijaystroup.com/projects.

Publications

- Growth of Pb islands on Ge(111) - evaluating temperature dependence from experiments and data analytics.
- Nucleation and Growth of Pb Islands on Ge(111) at Low to Room Temperatures via Collective Diffusion.

Clubs

Robotics Club of Central Florida

- **Ensure organization and documentation** for all activities associated with the club.
- **Created a Discord Bot to assist with all administrative duties** of the club.
- Member of the **Software Team** on the **AGV Team** for the club.