Ethan J. Franco

(631)-639-4472 | ethanjfranco@gmail.com | efranco01.github.io

Skills

- *Programming Languages:* Python, Java, JavaScript, SQL, MATLAB, Fortran
- *Frameworks and Tools:* Django, Docker, Git, Flask, PyTorch, Qiskit, Ubuntu, Fedora
- *Software:* Autodesk Fusion 360, Solidworks, LoggerPro, Snowflake, Azure, LT Spice, KICAD, Linux
- *Methodologies:* Agile, CI/CD, ETL
- *Hardware:* Oscilloscopes, CNC, PCB, SLA, FDM, PVD

Professional Experience

Polen Capital | *Data Engineer Intern* *June 2023 – August 2023*

- Led integration of Python-Azure data pipelines, automating data reporting, and saving 12.65 hours daily, while reducing third-party subscription costs.
- Time to completion of monthly and quarterly tasks reduced by 100 hours and 15 hours respectively.
- Developed a scalable Python API on Azure Functions, enabling secure and expandable cloud-based web scraping.

Stony Brook University | *Software Developer and System Administrator* *November 2022 – Present*

- Developed Python scripts to automate participant scoring, resulting in a 30% reduction in manual effort and increased efficiency.
- Maintained and optimized Ubuntu server and data infrastructure, ensuring smooth data access and storage.
- Utilized SFTP for file movement and xrdp for remote desktop services.

Stony Brook University | *Physics Research Assistant* *January 2023 – May 2023*

- Worked with a team in developing the Database for Spectroscopic Constants of Diatomic Molecules (DSCDM), leveraging machine learning capabilities to enable predictions for untested molecules.
- Collaborated with researchers to implement advanced data analysis techniques, resulting in enhanced database accuracy and usability.

Formlabs | *R&D Engineer Intern* *January 2022 – August 2022*

- Designed and implemented full-stack automation tools using Python and JavaScript (React.js), streamlining materials research and development processes.
- Developed a force model and conducted design of experiments, resulting in a 40% reduction in support structure generation time while maintaining high print stability and success rates.
- Optimized industrial photopolymer resins, reducing overall print times by an average of 3 hours with a 100% print success rate during validation.
- Expanded optimization-related tooling for the SLS material development team, improving print process and quality.

Wolfspeed, Inc | *Process Engineer Intern* *May 2021 – August 2021*

- Analyzed historical PVD data trends using Microsoft Access and SAS to identify root causes of AU spitting events during physical vapor deposition.
- Built a real-time data-driven predictive model to monitor deposition, reducing out-of-specification batches by 30% and enabling optimized post-processing.
- Implemented the predictive model company-wide, leading to increased performance efficiency and improved product quality.

Education

Stony Brook University Stony Brook, NY

Candidate for Bachelor of Science Degree in Physics *May 2024*

- *Relevant Coursework:* Classical Physics 1 & 2, Modern Physics, Computation for Physics and Astronomy, Waves and Optics, Analytical Mechanics, Electromagnetic Theory 1, Applied Linear Algebra, Object-Oriented Programming, Engineering Graphics and CAD, Electronics and Instrumentation, Quantum Computing