Corrado Mazzarelli

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www.corradomazzarelli.com

https://github.com/CorMazz

Education

May 2024
Georgia Institute of Technology
Master of Science
Aerospace Engineering
GPA – **4.0/4.0**

May 2021
Rensselaer Polytechnic Institute
Bachelor of Science
Aerospace Engineering &
Mechanical Engineering
GPA – **4.0/4.0**

Languages & Frameworks & Tools

Python
Rust
VBA
SQL (Postgres & SQLite)
Docker
Git
Excel/PowerPoint/Word
Full Stack Development
SDLC
Basic Spanish/Italian

Professional Experience

General Electric Vernova

Combustion Aero Design Engineer — 2023 – P

- Primary developer for Python tools to automate data collection/analysis for novel H2 combustor research and design
- Led full-day, $100K+ combustor performance tests and developed Python tools to standardize time-series analysis of millions of data points, previously unmanageable in Excel
- Pioneered new capability by developing a Python library to automate combining video compilation and data plotting for tests
- Developed infrared camera data post-processing Python script, automating the task and reducing touch time from 5hrs/test to seconds

Python Boot Camp Architect/Professor — 2023 - P

- Developed curriculum and taught a 20-hour course to 60+ GE employees
- Taught sound coding principles, including Separation of Concerns, DRY, and AHA, fostering good practices in junior developers

Combustion GitHub Organization Manager — 2023 - P

- Created the Combustion GitHub organization to allow for cross-team collaboration
- Developed a Python library built on Polars, Plotly, Pandas, Scikit-Learn, enabling new team functionality in handling large datasets and reducing prior data processing workflow time by more than 40%

Edison Engineering Development Program — 2021 - 2023

- Combined Python, Siemens NX, and Ansys Workbench/Fluent to automate CFD analysis, creating a workflow and library to run and analyze 50 CFD cases, cutting touch-time/case from 3 hours to 15 minutes
- Developed Python software using OpenCV to detect and measure crack growth in composite materials, providing $50,000 in value

Freelance Experience

Greenville Westies

Lead Developer — 2024 – P

Both applications accessible via corradomazzarelli.com

- **Dancexam –** Built a containerized web application in Rust (full-stack using Axum, Askama, HTMX) with a CI/CD pipeline (GitHub Actions, Docker) for grading dancers – prioritized SDLC by collecting stakeholder requirements, designing for extensibility, and improving per user feedback
- **DJ Assistant –** Full-stack Python web app using Flask, Jinja, Nginx, and SQLite to arrange DJ playlists, reducing weekly preparation time by 70%