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, JavaScript
TypeScript, VBA
SQL (Postgres, SQLite, DuckDB)
Docker
Git, Github Actions
Excel/PowerPoint/Word
Full Stack Development
Bootstrap & Tailwind CSS
React
SDLC
Basic Spanish/Italian

Professional Experience

General Electric Vernova

Combustion Software Engineer — 2024 – P

- Created 7 Python libraries with CI pipelines for docs, linting, and testing to automate CFD case submission
- Established a robust test-driven development workflow, lowering incidence of bugs that cost >12k CPU hours from 2/day to ~1/week
- Reduced human errors and case submission time by 10x, enabling rapid iteration on design to fulfill Department of Energy grant requirements
- Set and enforced coding standards for entire combustion organization

Combustion Aero Design Engineer — 2023 – 2024

- Primary developer for Python tools to automate data collection/analysis for novel H2 combustor research and design – created libraries with unit testing, coverage reports, automatic documentation generation, linting for code format standardization and GitHub actions
- 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, reducing engineer touch time on videos by 70%
- 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
- Leading implementation of auto-grader software, setting up services to host year-round learning material

Edison Engineering Development Program — 2021 - 2023

- Developed Python computer vision 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

Application accessible via www.corradomazzarelli.com

- **Dancexam –** Built a containerized, production web application in Rust (full-stack using Axum, Askama, HTMX, Tailwind) with a CI/CD pipeline (GitHub Actions), JWT auth, and unit tests, for proctoring dancer tests
  - Prioritized SDLC by collecting stakeholder requirements, designing for extensibility, and improving per user feedback