

Corrado Mazzarelli

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www.corradomazzarelli.com

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

GPA – 4.0/4.0

Languages & Frameworks & Tools

Python

Rust

VBA

SQL (Postgres & SQLite)

Docker

Git

Excel/PowerPoint/Word

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 for time series analysis of millions of data points, previously unmanageable in Excel
- Pioneered new capability by developing a Python library to combine video compilation and data plotting for tests
- Developed infrared camera data post-processing Python script, 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, enable new team functionality in handling large datasets and reduce 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 post-process 50 CFD cases, reducing touch time/case from 3 hours to 15 min.
- 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

- **Dancexam** – Built a containerized web application in Rust (Axum, Askama, HTMX) with a CI/CD pipeline (GitHub Actions, Docker), for grading dancers – prioritized scalability/flexibility for adoption by other communities
- **DJ Assistant** – Created a Python web app using Flask, Jinja, Nginx, and SQLite to rearrange playlists for DJs, reducing weekly preparation time by 70% (Both applications accessible via corradomazzarelli.com)