Diego Penton

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EDUCATION

Florida Polytechnic University **Expected Graduation: May 2027**

Bachelor of Science (BS): ***Computer Science – Artificial Intelligence*** *Lakeland, FL*

WORK EXPERIENCE

Florida Polytechnic University, Lakeland, FL – **Admissions Ambassador** **August 2024 – Present**

- Represented the university to prospective students and families, enhancing engagement during tours and information sessions
- Assisted over **500+ prospective students** with personalized information and resources, streamlining the admissions process

Zurich University, **Microscopy Department**, Zürich, Switzerland – **Intern** **July 2022 – August 2022**

- Standardized guides on TEM, SEM, Cryo-EM, and image analysis tools
- Updated documentation for microscopy software and workflows
- Organized the department's training and documentation database

Fairchild Botanical Garden, Miami, FL – **Intern** **June 2022 – July 2022**

- Worked on 4 different experiments with plant growth simulations for **NASA's Kennedy Space Center** and Fairchild Botanical Garden
- Visited Kennedy Space Center and observed behind-the-scenes plant biology research tied to the **Growing Beyond Earth** program
- Presented research findings at a symposium hosted by Fairchild Botanical Garden, attended by in-house researchers and live-streamed to NASA collaborators

SKILLS

Programming: C, C++, Python, HTML, NumPy, Pandas, Yfinance, Matplotlib, Command Line, SQL, LaTeX, KaTeX

Software: Arduino IDE, MATLAB, Excel, Power Automate, Logisim, Google Collab, SOLIDWORKS, Tinkercad, GitHub

Hardware: Arduino Uno R3, Raspberry Pi 5, 3D Printing

PROJECTS

Modular Algorithmic Trading Framework **Fall 2025 – Present**

- Built a Python trading system with modular "branch" models (RSI, GARCH, ML)
- Implemented walk-forward validation and backtesting to reduce overfitting
- Designed risk management with Sharpe ratio, VaR, and drawdown metrics

Database Final Project **Spring 2025**

- Built a SQL database to model operations of an online bookstore, including inventory and sales
- Designed tables, queries, and relationships to manage products, customers, and invoices
- Implemented reports, stored procedures, and indexing to track trends and improve efficiency

Graph-Based Airport Connectivity and Flight Route Optimization System **Spring 2025**

- Modeled airports and routes as graph nodes and edges to analyze connectivity
- Implemented algorithms (shortest path, MST, state search) for route optimization
- Enhanced efficiency by reducing redundant routes and highlighting major hubs

Scientific Python Interactive Data Acoustic Modeling **Fall 2024**

- Developed a Python GUI to analyze and visualize acoustic data (waveforms, RT60 plots)
- Implemented FFT, MP3-to-WAV conversion, and noise cleaning for signal processing
- Collaborated with a 3-person Agile team using GitHub and Asana

Concepts and Methods for Engineering and Computer Science Hackathon **Spring 2024**

- Built a mechanism to transfer digital images to an Etch-a-Sketch using C++ and Arduino
- Programmed precise motor control to accurately reproduce images
- Integrated hardware and microcontroller logic to automate the drawing process