



Patrick Dwyer

Creative Data Scientist with a software engineering skillset. 1 year of professional software development experience. Math and Computer Science double major from Northwestern University. Experience designing and implementing quality machine learning and data products in a team environment. Dedicated to doing things the right way.

Experience

Manifold Group: Data Scientist

October 2023 – Present

- Designed and implemented real time physical sensor driven alert system in a team environment
- Utilized best practices for engineering software with Python and followed well established design principles, allowing the team and product to adhere to developing business requirements
- Created CI pipeline to integrate and store Dockerized machine learning application into existing AWS infrastructure
- Translated and developed complex mathematical models into production application

Websanity: Web Developer

September 2023 – Present

- Freelance Web Developer for [Rulepop](#), an emerging rules reference platform for tabletop games
- Implemented search using [Fuse.js](#), page sharing using share api and dynamic title switching for all live rules references

Schwartz Lab: Lab Tech

July 2023 – Sep 2023

- Developed supervised 3d Convolutional Neural Network in PyTorch
- Extended PyTorch [torch.autograd.Function](#) class to integrate 3d→2d point projection into [autograd](#)
- Manually labelled 8,544 ground truth 2d points using self-made image labeling program
- Set up extrinsic camera calibration routine by implementing [Levenberg-Marquardt](#) for [Bundle Adjustment](#)

Manifold Group: Data Science Intern

July 2022 – March 2023

- Collaborated with head of data analytics to build a modular and extendable data pipeline in Python using Pandas and NumPy
- Visualized data for head of data analytics and partners using Matplotlib and Altair

Technical Skills

Languages

Python, SQL, Javascript, CSS, [SCSS](#),
HTML, Bash(Unix shell)

Tools

Docker, EC2, ECR, PostgreSQL, git,
GitHub Actions, GitLab CI/CD, [Node.js](#),
[npm](#), Visual Studio Code, [Jupyter](#)

Libraries

[NumPy](#), [Pandas](#), [sklearn](#), [PyTorch](#),
[Matplotlib](#), [Vega-Altair](#), [OpenCV](#), [Flask](#),
[node:http](#), [node:fs](#), [Fuse.js](#)

Education

BA: Mathematics, Computer Science

Sep 2019 – June 2023

Northwestern University, Evanston, IL — Weinberg College of Arts and Sciences — 3.43/4.00 GPA

Projects

patrickdwyer.com

Summer 2023-Present

- Responsive CV website built from scratch using no pre-built libraries and industry best practices