



Patrick Dwyer

Data Scientist with a software engineering skillset. Over a 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
- Created CI pipeline to integrate and store Dockerized machine learning application into existing AWS infrastructure
- 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
- Translated and developed complex mathematical models into production application
- Continuously assessed model quality and managed model remediations

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
- Implemented fast dynamic loading of HTML partials for all live rules references

Schwartz Lab: Lab Tech

July 2023 – Sep 2023

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

Technical Skills

Languages

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

Tools

[Docker](#), [EC2](#), [ECR](#), [Vertex AI](#), [KFP SDK](#),
git, GitHub Actions, GitLab CI/CD

Libraries

[NumPy](#), [Pandas](#), [sklearn](#), [PyTorch](#),
[Matplotlib](#), [Plotly](#), [OpenCV](#)

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

LLVM Compiler (Class: Compiler Construction)

Winter 2022

- Built an LLVM→Assembly compiler in C++