@ patrick@patrickdwyer.com   in patrick-dwyer33   ⌗ patrickdwyer33

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 infrasture
- Translated and developed complex mathematical models into production application

Websanity: *Web Developer*   **September 2023 – October 2023**

- 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

LLVM Compiler (Class: Compiler Construction)   **Winter 2022**

- Built an LLVM➡Assembly compiler in C++

Story Painter (Class: Practicum in Intelligent Information Systems)   **Fall 2022**

- Collaborated on a team of three people to create a system that takes in a short story and outputs a picture book that fits the story
- Built as a web app using Flask, a python framework
- Created a custom training data set of >50 examples of turning paragraphs with varying lengths into lists of phrases for sequential image generation
- Used OpenAI's public API to fine-tuned OpenAI GPT-3 model using their public API with this custom data, query the fine-tuned model, and feed its output into DALL-E 2 to generate novel and relevant picture books