NICHOLAS GARDNER

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EXPERIENCE

Data Science Intern
National Grid

📅 June 2023 – August 2023   📍 Waltham, MA

- This summer, I will be interning with National Grid's data science and forecasting team, where I will pursue my passion for data science, machine learning, and sustainability.

Machine Learning Engineer Co-op
Golisano Institute for Sustainability

📅 August 2020 – Present   📍 Rochester, NY

- Implemented a complete system for LED health assessment from images of printed circuit boards, using OpenCV and PyTorch, that achieved over 95% accuracy on validation data.
- Designed machine learning models for gear prognostic health monitoring using PyTorch, Keras/Tensorflow, and Sklearn. Modeling achievements include accurate tracking of the progression of tooth damage with some small success in prediction as well.
- Created a system for localization and health assessment of CT scans of solder joints, using OpenCV and PyTorch.
- Designed and implemented a genetic algorithm to explore hyperparameter space for asymmetric auto encoders. This search algorithm, which was implemented in parallel to improve model training efficiency, more quickly converged to optimal values and allowed for analysis of broad model trends.
- Utilized software design principles to build and redesign internal libraries.

Computational Software Algorithm Development Co-op
Spectral Sciences, Inc.

📅 August 2021 – December 2021   📍 Burlington, MA

- Designed and implemented data classes for atmospheric datasets.
- Created custom interpolation to combine datasets for integration into SSI's Standardized Atmospheric Generator (SAG).

PROJECTS

PCB Identification and Assessment
Thesis Project

📅 August 2022 – Present

- Currently designing and implementing an end-to-end computer vision and machine learning system to identify part numbers on printed circuit boards and assess different kinds of damage in partnership with the electronics remanufacturer, CoreCentric.

Gym Tracker
Personal

📅 October 2022 – Present

- Scrapes RIT's facilities website to display current and historical gym occupancy. Uses Google Cloud Run to automate scraping with BeautifulSoup4, Google Firebase to store data, and a Plotly Dash Flask app hosted on Heroku to render. Predicts future data using Facebook AI's Prophet.

SUMMARY

5th year computer science BS/MS student at RIT, graduating in December 2023, looking for a full-time data science / machine learning position starting in spring 2024.

EDUCATION

M.S. Computer Science
Rochester Institute of Technology

📅 January 2023 – December 2023   GPA: 3.81

B.S. Computer Science
Rochester Institute of Technology

📅 August 2018 – December 2022   GPA: 3.81

SKILLS

Python   Java   C/C++   PyTorch
Tensorflow   Keras   Scikit-Learn
OpenCV   Matplotlib   NumPy
Pandas   SciPy   SQL   Git   Unix
Google Cloud   AWS   Heroku

COURSEWORK

- Neural Nets and Machine Learning
- Topics in Intelligent Systems: Intelligence for Autonomous Vehicles
- Introduction to Computer Vision
- Advanced Computer Vision
- Introduction to Artificial Intelligence
- Introduction to Machine Learning
- Biologically-Inspired Intelligent Systems
- Principles of Data Mining
- Computational Complexity
- Analysis of Algorithms
- Foundations of Networks
- Principles of Data Management
- Introduction to Software Engineering
- Concepts of Parallel and Distributed Systems