

Martin Thomas Durkin

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EDUCATION

University of Rochester
Master of Science in Data Science
GPA: 3.79/4.0

Rochester, NY
Class of Fall 2022

Rensselaer Polytechnic Institute
Bachelor of Science in Computer Science
GPA: 3.54/4.0

Troy, NY
Class of 2021

SKILLS

Programming Languages: Python (PyTorch, PySpark, Pandas, NumPy, Matplotlib, Seaborn, SciKit-Learn), Bash, C, C++, C#, Java, R, SQL, Visual Basic

Web Development: Blazor, CSS, HTML, MongoDB, .NET Framework, Node.js, PostgreSQL, Vue.js

Other: Linux Ubuntu, Git, Confluence, Jira, Jupyter Notebook, Databricks

Certifications: Databricks Data Engineer Associate

WORK EXPERIENCE

Harris School Solutions – *Research and Development Intern*

January 2020 – October 2021

- Engaged in an Agile workflow to modernize the BOCES module for the purpose of providing a better user experience over the legacy WinCap application, which manages contracts, shared programs, and services used by school districts
- Implemented the entire Actual Use Bill Schedule financial management module successfully, using Blazor, C#, and Harris' Cheyenne Framework, allowing clients to issue, process, and post bills
- Participated in comprehensive code reviews and maintained open communication with QA to accelerate the rollout of new features to beta users
- Utilized Jira to manage bi-weekly sprint tasks and prioritize backlog items in collaboration with the Product Owner

NASA Capstone Researcher  [Report](#)

Fall 2022

- Collaborated with Data Scientists from NASA, experts from Coral Vita, and fellow students to effectively build a machine learning pipeline using Python that is able to determine coral presence and bleaching levels in order to assist large-scale coral farming
- Constructed a balanced dataset from two NASA satellites and coral databases to train a reliable model for detecting coral presence at a specific location and date, resulting in a realistic overall accuracy of 91 percent
- Dataset consisted of 31 LiDAR features plus an additional 21 features were engineered to further enhance the model's capability of correctly identifying moderate/severely bleached coral

PROJECTS

Classification of Cancer Discussion Posts  [Report](#)

Fall 2022

- A comparative study of deep learning models, conducted with a partner, to correctly identify the cancer a patient has, as a means to creating a more streamlined process when making a post on the Cancer Survivors Network website
- Scraped data using BeautifulSoup resulting in over 100,000 total posts and 13 unique classes
- Used PyTorch to create and train efficient deep learning models and determined that a stacked model consisting of a Bi-LSTM and transformer encoder provided the best results at nearly 71 percent

Trending Research Topics  [Report](#)

Fall 2021

- Utilized Dimensions.ai to construct a dataset consisting of over 51,000 grants from 131 R1 universities in order to compare trends in Computer Science research to those on CSRankings.org by applying LDA and BERT topic modeling
- Data was cleaned using numerous NLP techniques in order for the models create distinctive and identifiable topics
- Developed models tailored to the University of Rochester, seeing a research shift towards lasers, cancer treatment, and psychology