Matthew Murray

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EDUCATION

North Carolina State University, Raleigh, NC **May 2024**
Bachelors of Science in Applied Mathematics and Electrical Engineering GPA: 3.7 / 4.0
Coursework: Scientific Computing, C/C++ for Mathematicians, Numerical Algorithms, Microelectronics

TECHNICAL SKILLS

Languages: Python, C/C++, CUDA, Cython, Golang, MATLAB, R, SQL
Frameworks and Tools: Kubernetes, Git, Tableau, PyData, KubeFlow
Machine Learning: Regression, Data Mining, Data Analysis, Data Visualization
Certifications: Certified Associate In Python Programming, Fundamentals of Data Science

EXPERIENCE

NVIDIA, Santa Clara, CA **May 2023 – Aug 2023**
Incoming Software Engineering Intern
- Building Dask and **Numba** (a JIT Compiler for Python)
- Technologies: Python, **C/C++**, **CUDA**, Numba, Dask, Kubernetes

Robinhood, Menlo Park, CA **May 2022 – Aug 2022**
Software Engineer Intern
- Designed and developed gRPC API to get the transaction history for Robinhood's Non-Custodial Wallet
- Developed the Register and Unregister Push Token gRPC APIs for the Push Notification Feature
- Created an Alert in Grafana for the price difference between MATIC and Wrapped MATIC tokens.
- Technologies: Golang, Kubernetes, Git

NVIDIA, Santa Clara, CA **Jan 2022 – May 2022**
Dask Deployment Intern
- Designed and Developed a **Kubernetes Operator** for **Dask** (A Distributed Computing Library for Python). The Operator supports horizontal pod-style autoscaling and multiple heterogeneous Dask clusters with CPU and GPU workers. Deployed on Kubernetes cluster and accessible via the Kubernetes API (kubectl) or the Python API (KubeCluster2). Wrote documentation for the Operator using **Sphinx**
- Added support for heterogeneous clusters to Dask Helm Clusters. (Blog post)
- Developed an HTTP API for Dask that exposes some of the scheduler's most popular methods
- Technologies: Python, HTML, Git, Kubernetes (**kubernetes-asyncio**), Docker, Sphinx

Oracle, Morrisville, NC **Jan 2021 – Aug 2021**
Software Engineer Co-op
- Deployed Projects on Kubernetes Clusters and Manually tested code changes by exec'ing into Pods and Running Commands.
- Managed Resources for Containers in Kubernetes Pods.
- Technologies: Python, HTML, Git, Kubernetes, Kibana, Docker

RESEARCH EXPERIENCE

North Carolina State University, Raleigh, NC **Aug 2020 – Present**
Computational Biology Research Assistant
- Developed a Deep Neural Network to Predict the Activation Scores of Protein Sequences.
- Ran Neural Network Models on NC State's High-Performance Computing Cluster.
- Presented at the NC State Undergraduate Research & Creativity Symposium. Presentation

North Carolina State University, Raleigh, NC **Aug 2020 – Dec 2020**
Data Visualization Research Assistant
- Develop a Large-Scale UAV Swarm Data Visualization in collaboration with the Army Research Lab
- Technologies: Python

PROJECTS

Open Source Contributions: Dask-Kubernetes (GitHub), Distributed (GitHub), Dask Helm Chart (GitHub), Dask Blog (GitHub), cuDF (GitHub), Scipy (GitHub), Numba (GitHub)

Blog (Skills: **Jekyll, Ruby, HTML, CSS**) **Aug 2022**

- A personal blog that I use to write about programming and mathematics (GitHub)

Anime-Reference (Skills: **Python, Requests, Pandas**) **June 2021**

- A Python Library for scraping content from anime websites (GitHub)

NBA Data Analysis Project (Skills: **Python, Pandas, IPython, Scipy, Seaborn)** **April 2020**

- A Data Analysis Project for finding NBA players most similar to the best players in the NBA. (GitHub)