

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: 3.76 / 4.0
Coursework: C/C++/Python for Mathematicians, Data Structures and Object-Oriented Programming in C++, Numerical Analysis, Scientific Computing, Linear Algebra, Exploratory Data Analysis for Big Data, Probability, Public Speaking

TECHNICAL SKILLS

Languages: Python, C/C++, CUDA, Cython, Go, MATLAB
Frameworks and Tools: Kubernetes, Git, PyData, IPython, KubeFlow

EXPERIENCE

NVIDIA, Santa Clara, CA **May 2023 – Aug 2023**
Software Engineering Intern

- Developed a Python library for visualizing and debugging Numba compiled code (Numba IR, LLVM IR, PTX, SASS)
- Developed stability features for the Dask Kubernetes Operator: Autoscaling, High-level Kubernetes Abstractions
- Extended Numba's CUDA target with additional NumPy universal functions (eg. bitwise twiddling, comparison, etc.)
- Technologies: Python, **CUDA**, Numba, Dask, Kubernetes, **Jupyter**, **IPython**, HTML, CSS, D3.js

Robinhood, Menlo Park, CA **May 2022 – Aug 2022**
Software Engineering Intern

- Developed a gRPC API in Golang to get the transaction history for Robinhood's Non-Custodial Wallet ([Blog: My Internship at Robinhood](#), [Blog: A Peek into the Tech Intern Experience](#))
- 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**
Software Engineering Intern

- Designed and developed a [Kubernetes Operator](#) for **Dask** (A Distributed Computing Library for Python). The Operator supports auto-scaling and multiple heterogeneous Dask clusters with CPU and GPU workers.
- Deployed the Kubernetes Operator and made it accessible via the Kubernetes API (kubectl) and the Python API (KubeCluster).
- Added support for heterogeneous clusters to Dask Helm Clusters. ([Blog post](#))
- Technologies: Python, HTML, Git, Kubernetes (**kubernetes-asyncio**), Docker, Sphinx

Oracle, Morrisville, NC **Jan 2021 – Aug 2021**
Software Engineer Co-op

RESEARCH EXPERIENCE

North Carolina State University, Raleigh, NC **Aug 2020 – Aug 2021**
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 MATLAB in collaboration with the Army Research Lab

PROJECTS

Open Source Contributions: Numba ([GitHub](#)), Dask-Kubernetes ([GitHub](#)), Dask-Distributed ([GitHub](#)), Dask Helm Chart ([GitHub](#)), cuDF ([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](#))