Ari Mirsky

Ithaca, NY
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Education

Cornell University **Aug. 2021 – May 2025**
Bachelor of Science in Computer Science, GPA: 4.058/4.0 *Ithaca, NY*

Experience

Cornell University **Aug. 2023 – Present**
Teaching Assistant *Ithaca, NY*

- Awarded CIS TA Recognition Award for excellent teaching skills and examples
- Led recitations to reinforce class concepts
- Held office hours to help students understand the class material
- Was a teaching assistant for Discrete Structures for Fall 2023 and Analysis of Algorithms for Spring 2024, Fall 2024

Amazon **May 2024 – Aug. 2024**
Software Engineer Intern *New York, NY*

- Utilized AWS Glue, Lambda functions, and CloudWatch to determine and visualize the correctness of datasets
- Saved at least 5 SDE hours/month of alarm debugging with better visualization of dataset health metrics over time
- Eliminated 25+ tickets/month with alarm consolidation and the deprecation of old, seldom used systems

Amazon **May 2023 – Aug. 2023**
Software Engineer Intern *New York, NY*

- Employed AWS managed Grafana to create dashboards for internal team usage and for other customers within Amazon
- Used SQL queries through Amazon's Redshift to process telemetry data
- Created a microservice using EC2 instances alongside S3 buckets that allowed services within Amazon to determine their callers' Transitive Authentication adoption status
- Preprocessed data hourly to maintain low latency responses with up-to-date information

Niemack Research Group **May 2022 – Jun. 2023**
Programmer Analyst *Ithaca, NY*

- Modernized legacy excel programs into Python
- Created an automated data pipeline from telescope parameters to constraints on cosmological parameters
- Published open source generalizable code for other telescope designs and locations
- Produced simulated maps of the sky using calculated sensitivity data

Projects

Cornell Autonomous Bicycle **Oct. 2021 – Present**
Software Team Lead *Ithaca, NY*

- Designed and allocated projects for a team of 15 people
- Managed the integration of the vision, navigation, and controls systems
- Directed the creation of connections between software and hardware on the physical bike

Navigation Subteam Lead

- Researched, designed, and implemented reinforcement learning algorithms for obstacle avoidance, including Q-learning
- Researched and designed supervised machine learning algorithm using a random forest approach for determining how densely to sample the state space
- Constructed a future plan for the team to transition from an autonomous bicycle to autonomous drone once autonomous bicycle testing is finished

Navigation Developer

- Contributed to a repository with 25k+ lines of code
- Worked with a team to create path following and collision avoidance algorithms
- Integrated bicycle hardware with pathing software using ROS

Relevant Coursework

- Analysis of Algorithms
- Reinforcement Learning
- Computer Vision
- Foundations of Robotics
- Computer System Organization
- Computer Graphics
- Functional Programming
- Object Oriented Programming
- Discrete Structures
- Reinforcement Learning
- Operating Systems
- Probability and Statistics

Technical Skills

Languages: TypeScript, SQL, Java, Python, Bash, JavaScript, HTML/CSS, R, OCaml, C, C++
Developer Tools: NumPy, Matplotlib, ROS, Swing, Discord.py
Technologies: AWS, Grafana, Git, Visual Studio Code, IntelliJ, Eclipse, BlueJ, Jupyter Notebook, Conda, React