# Ari Mirsky

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## Education

**Cornell University** — Ithaca, NY
*John McMullen Dean's Scholar* — *Aug. 2021 – Present*
*B.S. in Computer Science, In Progress (Anticipated May 2025)*
*GPA: 4.058/4*

**Briarcliff High School** — Briarcliff Manor, NY
*Regents Diploma with Honors and Distinction in Mathematics* — *Sep. 2017 – June 2021*
*GPA: 101.36/100*

## Experience

**Software Engineer, Amazon** — New York, NY
*Cloud Architected Network Telemetry Team* — *May 2024 – Present*

- Utilized AWS Glue Data Quality to determine the correctness of vended datasets
- Used AWS CloudWatch Alarms and Dashboards to display up-to-date data quality information
- Designed metrics to display coverage of hosts and IPs to inform decisions about expansion decisions

*UnifiedAuth Team* — *May 2023 – Aug 2023*

- Utilized 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

**Cornell Autonomous Bicycle**
*Cornell University* — *Ithaca, NY*
*Software Team Lead* — *May 2023 – Present*

- 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* — *May 2022 – May 2023*

- 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* — *Oct 2021 – May 2022*

- 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

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

- Led recitations to reinforce class concepts
- Held office hours to help students understand the class material
- Graded students' exams and homeworks
- Was a teaching assistant for Discrete Structures for Fall 2023 and Analysis of Algorithms for Spring 2024

**Programmer Analyst, Niemack Research Group** — May 2022 – Jun 2023
*Cornell University* — *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

**Discord Bot** | *Python, Discord.py* — June 2021 – July 2021

- Created a discord bot that responded to messages sent in selected discord servers
- The bot asynchronously responded to user input
- Integrated with open source Discord.py

## Relevant Courses

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

## Technical Skills

**Languages**: Java, Kotlin, Python, Bash, JavaScript, HTML/CSS, R, OCaml, C, C++, TypeScript, Rust
**Frameworks/Libraries**: Swing, FastAPI, Discord.py, ROS, Gazebo, NumPy, Matplotlib
**Developer Tools**: Git, Visual Studio Code, IntelliJ, Eclipse, BlueJ, Jupyter Notebook, Conda, React