# Benjamin E. Jordan

bej9@cornell.edu | 607-339-1740
LinkedIn | Portfolio Website | GitHub

---

*Education*

**Cornell University** [Graduated Dec 2023]
M.Eng. in Computer Science - Concentration in Machine Learning & Systems - [3.76 GPA]

**Rochester Institute of Technology** [Graduated Dec 2022]
B.S. in Computer Science - Minor in Music and Technology - [3.65 GPA, 3.94 avg during 2nd half of degree]

*Skills*

**Programming:** C++, C#, Java, Python, NumPy, PyTorch, Scikit-Learn, CUDA, Angular, Javascript
**Other Skills:** Git, Linux, Unit Testing, Agile Development, LaTeX

*Experience*

**Machine Learning Engineering Intern @ KLA** [May 2023 - Aug 2023]
- Independently researched and implemented semiconductor defect detection algorithms
- Fine-tuned vision transformers for robust classification with limited customer data
- Used PyTorch 2.0's JIT compiler to optimize training and inference speed
- Applied quantization to models for improved efficiency
- Presented project during poster board session and was invited to give a second technical talk

**Software Engineering Intern @ Carestream** [May 2022 - Aug 2022]
- Developed and maintained C# back-end functionality in Carestream's ImageView X-Ray software
- Gained professional experience with unit testing, agile, git, large codebases, and OO design

**Research Software Developer @ RIT** [Aug 2022 - Jan 2023]
- Re-hired part-time by faculty to develop software for spatial audio research during final semester
- Independently created a program with a 3D UI for data collection on spatial audio interpretation
- Technologies used include Three.js, Angular, and Typescript

**Research Software Developer @ RIT** [June 2020 - Aug 2021]
- Independently developed software for cochlear implant research project with RIT & UIowa faculty
- Contains eight listening test modules created using Javascript and the Web Audio API
- Participated in weekly team meetings where software progress was presented
- Data collected from the program was used to produce multiple research publications

*Relevant Coursework*

**ML:** Large Scale Machine Learning, Machine Learning Theory, AI Seminar, Reinforcement Learning, Machine Learning, Artificial Intelligence, Natural Language Processing, Computer Vision
**Sys:** Distributed Systems, Parallel Computing, Computer Architecture, Operating Systems, Networks
**Math:** Matrix Computations, Graph Theory, Probability & Statistics

*Activities*

**RIT Varsity Track and Field (15-20 hrs / week commitment)** [March 2019 - Dec 2022]
RIT AI Club Member [September 2022 - Dec 2022]
Private CS Tutoring

*Awards*

RIT Presidential Merit Scholarship

*Projects*

**Distributed Systems Labs & Framework [DSLabs]**
- Created a Google spanner-esque distributed key-value store in Java
- Implemented Paxos for replica group consensus, 2PC to achieve atomic commit for distributed transactions, and dynamic load balancing of shards to handle server reconfiguration

**Text-To-Audio Generative ML Synthesizer**
- Adapted Meta's AudioCraft open-source codebase to create a generative text-to-audio synthesizer
- Fine-tuned MusicGen transformer-based model for generating audio conditioned on text
- Converted model parameters to float16 for improved memory usage prior to fine-tuning
- Created a model to determine the key of audio samples for data processing purposes

**Audio Sample Key Signature Detector**
- Automatically detects the key signature of an audio sample
- Uses a language model to determine if filename contains a key signature, and a separate model to determine the key of the audio sample otherwise