

# Benjamin E. Jordan

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[LinkedIn](#) | [Portfolio Website](#) | [GitHub](#)

Education	<b>Cornell University</b> M.Eng. in Computer Science - Concentration in Machine Learning & Systems - [3.76 GPA]	[Graduated Dec 2023]
	<b>Rochester Institute of Technology</b> B.S. in Computer Science - Minor in Music and Technology - [3.65 GPA, 3.94 avg during 2nd half of degree]	[Graduated Dec 2022]
Skills	<b>Programming:</b> Python, NumPy, PyTorch, C++, C, Java, C#, CUDA, Scikit-Learn, Angular, Javascript, SQL <b>Other Skills:</b> Git, Linux, Unit Testing, Agile Development, LaTeX	
Experience	<b>Machine Learning Engineering Intern @ KLA</b>	[May 2023 - Aug 2023]
	<ul style="list-style-type: none"><li>Independently researched and implemented semiconductor defect detection algorithms</li><li>Fine-tuned vision transformers for robust classification with limited customer data</li><li>Applied quantization and JIT compilation to models for improved efficiency</li><li>Presented project during poster board session and was invited to give a second technical talk</li></ul>	
	<b>Software Engineering Intern @ Carestream</b>	[May 2022 - Aug 2022]
	<ul style="list-style-type: none"><li>Developed and maintained C# back-end functionality in Carestream's ImageView X-Ray software</li><li>Gained professional experience with unit testing, agile, git, large codebases, and OO design</li></ul>	
	<b>Research Software Developer @ RIT</b>	[Aug 2022 - Jan 2023]
Relevant Coursework	<ul style="list-style-type: none"><li>Re-hired part-time by faculty to develop software for spatial audio research during final semester</li><li>Independently created a <a href="#">program</a> with a 3D UI for data collection on spatial audio interpretation</li><li>Technologies used include Three.js, Angular, and Typescript</li></ul>	
	<b>Research Software Developer @ RIT</b>	[June 2020 - Aug 2021]
	<ul style="list-style-type: none"><li>Independently developed <a href="#">software</a> for cochlear implant research project with RIT &amp; UIowa faculty</li><li>Contains eight listening test modules created using Javascript and the Web Audio API</li><li>Participated in weekly team meetings where software progress was presented</li><li>Data collected from the program was used to produce research publications</li></ul>	
	<b>ML:</b>	Large Scale Machine Learning, Machine Learning Hardware and Systems, Reinforcement Learning, Computer Vision, Natural Language Processing, Machine Learning Theory, AI Seminar
	<b>Sys:</b>	Distributed Systems, Parallel Computing, Computer Architecture, Operating Systems, Networks
Activities	<b>Math:</b>	Numerical Linear Algebra, Probability & Statistics, Algorithms, Graph Theory
	<b>RIT Varsity Track and Field (15-20 hrs / week commitment)</b>	[March 2019 - Dec 2022]
Awards	Private CS Tutoring RIT Presidential Merit Scholarship	
Projects	<b>Text-To-Audio Generative Synthesizer</b>	
	<ul style="list-style-type: none"><li>Adapted Meta's <a href="#">AudioCraft</a> open-source <a href="#">codebase</a> to create a generative text-to-audio synthesizer</li><li>Model is based on MusicGen, a 3.3B parameter autoencoder + autoregressive language model</li><li>Prepared 150GB dataset of audio samples with multi label and natural language text-descriptions</li><li>Analyzed MusicGen, AudioGen, and Encodec research to guide hyperparameter, data preparation, and data augmentation choices</li><li>Working on deploying model using FastAPI, Docker, and serverless cloud computing</li><li>Plans to implement efficient, genre specific synthesis with <a href="#">low-rank adapters (LoRA)</a></li></ul>	
	<b>Distributed Systems Labs &amp; Framework [DSLabs]</b>	
	<ul style="list-style-type: none"><li>Created a Google spanner-esque distributed key-value store in Java</li><li>Implemented Paxos for replica group consensus, 2PC to achieve atomic commit for distributed transactions, and dynamic load balancing of shards to handle server reconfiguration</li></ul>	