

Kenneth Choi

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EDUCATION

Massachusetts Institute of Technology	May 2025
<i>Master of Engineering in Computer Science (Concentrations in AI and Systems)</i>	GPA: 5.0
Massachusetts Institute of Technology	May 2025
<i>Bachelor of Science in Computer Science and Engineering</i>	GPA: 5.0
<i>Bachelor of Science in Mathematics</i>	
Relevant Coursework: Distributed Systems (TA), Software Performance Engineering, Operating Systems (TA), Machine Learning, Accelerated Computing, TinyML and Efficient Deep Learning, LLM Seminar, Database Systems, Natural Language Processing, Computer Vision, Design and Analysis of Algorithms, Statistical Data Analysis	

EXPERIENCE

MIT Data Systems Group	Aug 2024 – Present
<i>Researcher</i>	<i>Cambridge, MA</i>
<ul style="list-style-type: none">Working on auto-scaling large language models on shared resources (supervised by Prof. Samuel Madden)	
Databricks	May 2024 – Aug 2024
<i>Software Engineer Intern — Mosaic R&D</i>	<i>San Francisco, CA</i>
<ul style="list-style-type: none">Designed and implemented storage and embedding features for multimedia files in the Databricks notebookDeveloped a multimodal Databricks Assistant prototype allowing for interaction with notebooks entirely via voice	
Amazon	Jun 2023 – Aug 2023
<i>Software Engineer Intern — Amazon Visual Search</i>	<i>Palo Alto, CA</i>
<ul style="list-style-type: none">Developed an automation framework that collected competitor search data more than 80x faster than the existing solution, speeding up the frequency of evaluating the Amazon document ranking model from yearly to monthlyImplemented a pipeline that aggregated data from multiple S3 sources into a common ML training data bucket	
MIT DNaMo Research Group	May 2022 – Aug 2022
<i>Researcher</i>	<i>Cambridge, MA</i>
<ul style="list-style-type: none">Implemented ML training optimizations (e.g., gradient accumulation and mini-batching) and baseline model comparisons for InforMARL, a novel multi-agent reinforcement learning algorithm featuring a decentralized critic<i>Scalable Multi-Agent Reinforcement Learning through Intelligent Information Aggregation</i> published at ICML 2023	
Research Science Institute (RSI)	May 2020 – Aug 2020
<i>Research Scholar</i>	<i>Cambridge, MA</i>
<ul style="list-style-type: none">Developed the rodeo algorithm, a quantum computing algorithm that accurately reconstructs any eigenvector (energy level) of a quantum Hamiltonian given an energy interval (supervised by Prof. Dean Lee)<i>Rodeo Algorithm for Quantum Computing</i> published by Physical Review Letters 2021	

PROJECTS

GPU-Accelerated SQL Joins kenchoi.dev/projects	Dec 2024
<ul style="list-style-type: none">Implemented an optimized version of sort merge join in CUDA (final project for 6.S894 Accelerated Computing)Achieved 20-30% speedup over the unoptimized baseline by materializing data only after transformation	
Fortuna fortuna-2022.herokuapp.com	Jan 2022
<ul style="list-style-type: none">Developed a full-stack web application with an immersive virtual casino interfacing with the Ethereum blockchainUsed a MongoDB, Express, React, Node.js (MERN) stack with Solidity for custom tokens and NFTsWon 1st place overall out of ~100 teams at the 2022 MIT web.lab Competition (team of 3)	

TECHNICAL SKILLS

Languages: Python, C/C++, Go, Typescript/Javascript, Java, SQL, MATLAB, Swift, HTML/CSS
Tools/Frameworks: PyTorch, CUDA, Pandas, Docker, AWS (S3, Lambda), NumPy, React, Next.js, Express.js

AWARDS

- Research Science Institute (RSI) Top 5 Paper (2020)
- Regeneron Science Talent Search Scholar (2021)
- Ellen Crocker Distinguished Scholar (2024)
- American Invitational Math Exam Qualifier (3x)

TEACHING EXPERIENCE

- 6.824 (6.584) Distributed Systems TA – Spring ‘24, ‘25
- 6.039 (6.181) Operating Systems TA – Fall ‘24
- 6.148 (6.962) web.lab President/Staff – IAP ‘23, ‘24, ‘25
- Research Science Institute – TA ‘21, Counselor ‘22