Cambridge, MA
Availability: May – Sep 2024

Kenneth Choi

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EDUCATION

Massachusetts Institute of Technology

EXPECTED MAY 2025

Candidate for B.S. in Computer Science and Engineering and B.S. in Mathematics. GPA: 5.0/5.0

Relevant Coursework: Distributed Computer Systems (6.824), Algorithms (6.046, 6.006), Software Construction (6.031), Machine Learning (6.036), Natural Language Processing (6.864), Computer Vision (6.819), Computation Structures (6.004), Computer Systems (6.033), Probability and Random Variables (18.600), Linear Algebra (18.06)

SKILLS

Programming: Python, Typescript, Go, Swift, Git, LaTeX
Web Development: React, Node.js, Express.js, MongoDB, HTML/CSS
Machine Learning and Data Analysis: PyTorch, TensorFlow, NumPy, MATLAB
Foreign Languages: Korean (professional), Spanish (familiar)

WORK EXPERIENCE

Amazon, *Software Development Engineer Intern* JUN 2023 - PRESENT

- Developed Amazon Lens visual search benchmark pipeline that automates API data collection from competitor apps 80 times faster than the current data collection solution
- Implementing an alternative benchmark solution that parallelizes Appium UI automation in AWS Device Farm to collect data from competitor apps

MIT web.lab, *President, Academic Chair, Lecturer* OCT 2022 - PRESENT

- Coordinating all operations for the MIT web.lab web development class and competition including developing curriculum, giving lectures, hosting code workshops, running office hours, judging projects, recruiting staff, and communicating with sponsors and administration
- Organized successful year of web.lab (2023) as Academic Chair with over 400 enrolled students, over 80 projects submitted, and $20,000 in prizes distributed

MIT DINaMo Research Group, *Undergraduate Researcher* MAY 2022 - PRESENT

- Current project: Designing a multi-agent reinforcement learning (MARL) algorithm that encodes low-level instructions, maps encoded tasks to collaborating agents, then trains and executes the agents decentrally
- Previous project: Optimized a graph neural network-based MARL algorithm in a navigation environment
- *Scalable Multi-Agent Reinforcement Learning through Intelligent Information Aggregation* preprint on ArXiv

Research Science Institute, *Teaching Assistant* JUL 2021 - AUG 2021

- Organized 1:1 oral presentation sessions with student researchers in computer science and physics
- Advised 3 of the Top 5 Oral Presenters

Facility for Rare Isotope Beams (FRIB) Lee Research Group, *Researcher* MAY 2020 - SEP 2021

- Designed the rodeo algorithm, a quantum computing algorithm that accurately reconstructs any eigenvector of a quantum Hamiltonian given an energy interval
- *Rodeo Algorithm for Quantum Computing* published by Physical Review Letters

PROGRAMMING PROJECTS

Fortuna, *fortuna-2022.herokuapp.com* JAN 2022

- Developed an online casino with multiplayer games and user ability to mint custom NFTs in an Ethereum testnet
- Implemented multiple pages front-to-back (e.g. slots, home, map) using MERN stack
- Won 1st place and Gather Innovation Prize at the 2022 MIT Web Lab Competition (team of 3)

Voice Reader with Icon Detection, *github.com/chigkim/VOCR/tree/PPAT22* SEP 2022 - DEC 2022

- Implemented a music icon detection feature in a macOS voice reader that uses optical character recognition (OCR)
- Integrated OpenCV contour detection and TensorFlow CNN into a Python backend, then connected the backend to Swift
- Worked with Berklee Prof. Chi Kim, as part of MIT's Principles and Practice of Assistive Technology class (team of 3)

AWARDS

- 1st place at MIT web.lab Competition (2022)
- Research Science Institute Top 5 Paper (2020)
- Regeneron Science Talent Search Scholar (2021)
- American Invitational Math Exam Qualifier (3x)

LEADERSHIP EXPERIENCE

- Lab Assistant for Software Construction (6.031)
- Events Chair for MIT Science Olympiad
- Relations Chair for MIT Korean Cultural Association