Eric Yoon

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Education

Cornell University Ithaca, NY

Bachelor of Arts in Mathematics and Computer Science *Expected May 2025*

- **Relevant Coursework**: Data Structures, Functional Programming, Analysis of Algorithms, Computer Systems Programming, Operating Systems, Computer Vision, Backend Development, Web Applications, Machine Learning, AI Practicum, Databases, Robotics, Advanced Linear Algebra, Abstract Algebra, Analysis, Differential Equations, Multivariable Calculus, Probability and Statistics
- **Awards**: Dean's List, National Science Bowl Winner(2021), AIME Qualifier
- **TA:** Computer Vision (Spring 2024), Web Applications (Fall 2024)

Experience

eCornell Ithaca, NY

Software Engineer Intern *June - Aug 2024*

- Developed an interactive chatbot using Python, JavaScript, BeautifulSoup, LlamaIndex, Pandas, and OpenAI API, enhancing user engagement by providing real-time course selection assistance. Pitched to Leadership Team and explained potential to eliminate manual labor of suggesting courses.
- Implemented multi-step chatbot flow including determining user's purpose, identifying the top domains with the most certificates, extracting the top skills for each domain, and recommending certificates and courses based on user input.

BreatheIT Solutions Inc. Remote

Software Engineer Intern *June - Aug 2024*

- Developed and deployed a B2B portal that enables business admins to analyze employee engagement and metrics securely and effectively using React.js, Node.js, PostgreSQL, OAuth, JWT, and Google Cloud. Created a comprehensive dashboard that shows lifestyle scores, discipline-specific scores, and individual employee data.
- Designed a personal assistant allowing users to manage their time efficiently using Node.js, PostgreSQL, and Supabase. Developed SQL functions to streamline database operations, including event filtering and date-based queries. Work will be installed as a discipline that is used daily by all users.

UCLA Stein Eye Institute Los Angeles, CA

Research Assistant, Advised by Professor Navid Amini *June - Aug 2023*

- Implemented a machine learning pipeline to detect glaucoma using KNN and SVM classifiers, optimizing accuracy for medical image classification. Built and trained CNN model using Keras to classify images, applying batch normalization, Gaussian blur, and affine transformations.
- Developed interactive GUI application using Tkinter to input medical images and visualize ROIs using OpenCV, improving accessibility for non-technical users.

Projects

Physics Engine

- Collaborated in team of 4 to develop a physics engine in OCaml that supports collisions, oscillations, and vector operations.
- Implemented a robust state module and tested extensively using OUnit2 and QCheck. Implemented algorithms for collision detection, resolution, and time-based simulation updates.

JP Morgan Chase & Co Quantitative Research Virtual Experience

- Forecasted natural gas prices using linear regression, SARIMA, and Prophet models, achieving MSE of 0.083.
- Created a rating system based on FICO scores and used logistic regression models to predict default probabilities, achieving 99% accuracy.

Technical Skills

Languages: Python, Java, OCaml, C, Swift, HTML, CSS, Javascript
Technologies: OpenAI API, Numpy, Pandas, React, Express, Node.js, Firebase, Flask, Docker, Postman, Git