Lyndon Yang

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Education

UC Berkeley, College of Engineering **Berkeley, CA**

Bachelor of Science in Electrical Engineering and Computer Science, **GPA: 4.0** May 2027

- **Honors**: Eta Kappa Nu (**Top 25% of EECS**), Tau Beta Pi (**Top 10% Engineering**), AI Entrepreneurs at Berkeley
- **Relevant Coursework**: Data Structures, Efficient Algorithms, Discrete Mathematics and Probability, Designing Information Devices and Systems I & II, Linear Algebra & Differential Equations, Computer Architecture, Optimization Models in Engineering, Introduction to Machine Learning, Deep Learning, LLM Agent

Experience

Berkeley Sky Computing Lab - Machine Learning Research Assistant **October 2024 – Present**

- Developing integration of **Gorilla LLM** with **ReAct Agents** in practical applications to optimize intelligent agent systems

Berkeley SkyDeck - Software Engineering Intern **September 2024 – Present**

- Designed and implemented interactive, streamed graph generation features, visualizing historical portfolio performance and market correlations for **over 5000 portfolios**, improving user understanding and engagement by **over 45%**
- Enabled multi-agentic workflows with real-time and past news and stock market data access, improving response **accuracy by 25%** and enhancing workflow **efficiency by 35%**, accelerating decision-making with up-to-date, contextualized information
- Integrated RAG, decreasing token usage by 30%, resulting in a **15% reduction in costs** and a **2x speed-up** in response time

UC Berkeley EECS - CS70 Undergraduate Course Staff 1 **August 2024 – Present**

- Tutored over **60 students** weekly in discrete math and probability theory during office hours and discussion sections
- Graded **100+ homework** questions weekly and **200+ exam** responses per semester, ensuring a **99%** grading accuracy

University of California, Santa Barbara - Research Intern **June 2022 – August 2022**

- Researched AI applications for detecting Coronary Artery Disease (CAD) risks using non-intrusive and intrusive medical data, developed a robust data pipeline, and trained multiple machine and deep learning models (LR, KNN, SVM, RF, FNN)
- Published a **10-page** research paper and delivered findings at a formal research symposium with over **250 attendees**

University of California, Los Angeles - Research Intern **June 2021 – August 2021**

- Explored ML applications for stroke patient analysis, implemented and tuned hyperparameters for LR, KNN, and SVM
- Presented findings at a course project seminar, earning a nomination for **best course project among 18 teams**

Projects

Tumoraid | LangChain, FastAPI, Docker, AWS ECS, OpenAI API, Streamlit **July 2024**

- Developed a web app combining a context-aware LLM with LangChain and OpenAI API to deliver multimodal, empathetic breast cancer support through few-shot prompting and the utilization of **5 custom-built AI models**, and deployed it on Render
- Deployed 4 Dockerized AI models on AWS ECS via REST APIs for real-time tumor analysis, enabling image and tabular data uploads for tumor assessments with continuous conversational context, resulting in **40% reduction** in analysis time

Breast Cancer Ultrasound AI | Python, PyTorch, TensorFlow, Keras, Pillow, OpenCV, Streamlit **June 2024**

- Developed a multi-model pipeline for breast cancer detection using ultrasound imagings, performing semantic segmentation using DeepLabV3+ (ResNet 50 backbone) and image classification using a fine-tuned ResNet152, achieving a testing accuracy of **98%**
- Created and deployed a Streamlit web app that generates overlaid mask images and performs real-time predictions

Quantitative Ensemble Cancer Detection | Python, TensorFlow, Scikit-Learn, XGBoost **June 2024**

- Applied AI with ensemble learning and stacking techniques to classify tumors based on numerical data, trained and evaluated over **ten machine learning models**, including LR, SVM, KNN, RF, XGBoost, NB, DT, GB, AB, ET, DNN
- Achieved high mode performance, with an accuracy of **97.37%**, precision of 97.61%, recall of **95.35%**, and an F1 score of 96.47%

PantryZen | Demo | Next.js, React, TypeScript, Tailwind CSS, Firebase **August 2024**

- Developed a real-time AI-powered inventory management dashboard featuring CRUD operations, advanced search and sort-by capabilities, and an AI-driven smart camera for seamless item addition via image recognition
- Leveraged Groq's Llama 3.1 8b LLM for rapid recipe generation, offering personalized meal suggestions, and crafted a responsive interface to deliver a consistent and optimized user experience across all devices

Build Your Own World | Java, Object Oriented Programming, Data Structures, JUnit Testing **April 2024**

- Collaboratively developed a 2D tile game, utilizing a Minimum Spanning Tree algorithm for random and interconnected world generation, and implemented features like a line of sight toggle and multi-language support for enhanced gameplay
- Created a comprehensive design document to guide the project's development, detailing the data structures and algorithms

Technical Skills

Languages: Java, Python, C/C++, SQL (PostgreSQL), JavaScript, TypeScript, HTML/CSS, Scheme
Frameworks: React, Next.js, Node.js, FastAPI, REST, Firebase, LangChain, Clerk, AutoGen, LlamaIndex
Developer Tools: Git, GitHub, VSCode, Visual Studio, PyCharm, IntelliJ IDEA, AWS, Docker, Pinecone, JUnit Testing, Unity
Libraries: TensorFlow, Keras, PyTorch, Scikit-Learn, OpenCV, Pandas, NumPy, Matplotlib, Seaborn, Plotly, Tailwind CSS, OS