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**

- Optimizing intelligent agent systems by integrating **Gorilla LLM** with **ReAct Agents** for practical applications

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

- Created real-time streamed graphs that illustrate market correlations and historical performance for a vast array of **over 5,000** investment portfolios; improving overall user interaction rates by **45%**
- Streamlined multi-agent workflows with real-time and historical news/stock data, improving response **accuracy by 25%** and workflow **efficiency by 35%**, accelerating decision-making
- Integrated RAG systems, decreasing token usage by **30%**, cutting costs by **15%**, while achieving **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, while ensuring a **99%** grading accuracy

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

- Researched AI solutions for Coronary Artery Disease detection using both non-intrusive and intrusive data, developing a scalable data pipeline and training models such as LR, KNN, SVM, RF, and FNN
- Published a **10-page** research paper and presented findings at a symposium with over **250 attendees**

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

- Explored machine learning applications in stroke patient analysis, tuning hyperparameters for models like LR, KNN, and SVM
- Earned a nomination for **best course project among 18 teams** for research findings presented at a seminar

Projects

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

- Developed an innovative web application that integrated a context-aware language model with LangChain and OpenAI API, providing empathetic breast cancer support through **5 custom-built AI models** and few-shot prompting techniques.
- Deployed 4 Dockerized AI models on AWS ECS via REST APIs for real-time tumor analysis, enabling simultaneous image and tabular data uploads, resulting in **40% reduction** in analysis time

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

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

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 model performance, with an accuracy of **97.37%** and F1 score of **96.47%**

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

- Engineered 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, enhancing user experience with responsive design across devices

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

- Collaboratively developed a 2D tile game featuring procedural world generation using Minimum Spanning Tree algorithms, adding line of sight and multi-language support for improved gameplay
- Authored a comprehensive design document outlining the data structures and algorithms used for the project

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