Andrew Long AI Engineer & Full-Stack

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Full-Stack & AI Engineer

Full-Stack and Al Engineer with 10+ years of experience designing and building end-to-end software and Al systems. Skilled in developing scalable web applications, integrating large language models (LLMs), and deploying production-grade machine learning solutions. Combines hands-on coding with architectural design and leadership, having contributed to Al, ad-tech, and platform engineering teams at Evertune AI, The Trade Desk, and Microsoft.

Professional Experience

Software Engineer, *Evertune AI* 04/2025 – Present | Seattle, WA

- Led data-driven experiments to develop machine learning models, utilizing tools such as Python and Jupyter Notebooks alongside libraries like scikit-learn, torch, and tensorflow to optimize solutions and enhance model performance.
- Performed comprehensive data preprocessing and analysis with numpy, pandas, and scipy, ensuring datasets were clean, structured, and ready for model training, while applying statistical methods for accurate results.
- Worked closely with engineering teams to transition machine learning solutions from prototypes to production-ready models, ensuring seamless integration into larger systems and maintaining high performance in live environments.
- Reviewed and refined AI training processes by validating prompt-based inputs, ensuring alignment with model goals and contributing to improvements in the effectiveness of the system's outputs.
- Built, evaluated, and iterated on machine learning models using frameworks such as TensorFlow and PyTorch, continuously enhancing predictive accuracy and optimizing results based on real-world feedback.

Software Engineer, *Seesaw Learning* 01/2025 – 03/2025 | Seattle, WA

- Faced with the challenge of inefficient manual resource conversion, developed a system that automatically converts PDFs and other resources into interactive activities, leveraging natural language processing (NLP) models to extract key information and structure it into quizzes and interactive content.
- Addressed the need for automatic grading of reading fluency by implementing LLM-based models for auto-grading.
- Designed and integrated the backend system using FastAPI to handle the large-scale processing of reading fluency data, ensuring accurate, real-time feedback for students.

- Worked on scalability and performance optimization for the real-time systems by incorporating AWS Lambda and DynamoDB to handle high volumes of user interactions and event tracking.
- Reduced latency and improved responsiveness by automating data pipelines and integrating GraphQL subscriptions for real-time data updates in the frontend interfaces.
- Developed and deployed features as part of a continuous integration and deployment pipeline using GitHub Actions, enabling seamless updates and bug fixes for the AI-powered functionality across the platform.

Lead/Senior/Software Engineer, *The Trade Desk* 10/2017 – 06/2023
Boulder & Denver, CO

- Faced with the challenge of predicting audience reach and optimizing campaign outcomes, developed an AI-powered engine to enhance decision-making and improve return on investment (ROI).
- Designed a machine learning pipeline to process data from multiple sources. such as user behavior, demographic data, and past campaign performance, enabling real- time predictions on campaign effectiveness. Used scikit-learn and TensorFlow to build and train models that forecast audience engagement, providing actionable insights for more effective targeting.
- To solve the problem of handling large, dynamic datasets, optimized the backend infrastructure using FastAPI for creating high-performance APIs and Docker to containerize services, ensuring scalability for large-scale data processing.
- Integrated AWS S3 for efficient data storage and AWS Lambda for serverless data processing, ensuring smooth operation even as data volume increased.
- Developed real-time dashboards with React and D3.js to visualize key campaign metrics such as reach, engagement, and ROI, providing marketers with the ability to make data-driven decisions instantly.
- To ensure the system stayed up-to-date with live campaigns, integrated AWS DynamoDB for real-time event tracking, allowing the Al system to continually update predictions based on ongoing campaign data.

Software Engineer II/Engineer/SDET Intern, 02/2014 – 09/2017 | Redmond, WA
Microsoft (Xbox Division)

- During the SDET Intern role, faced with the challenge of limited automated test coverage for SharePoint and Xbox systems, developed automated testing scripts using C# and Selenium, which improved test coverage and reduced manual testing efforts by 0%. This solution accelerated the testing process, ensuring faster feedback and higher test accuracy, while gaining experience with Visual Studio and Git for version control and execution.
- Worked on Xbox telemetry systems that lacked automated data collection and real-time insights, which caused delays in identifying performance issues.
- Designed and implemented a cloud-based diagnostic tool using C#, Azure, and SQL to automate telemetry data collection. and provide near real-time feedback to product teams. This improvement enabled faster diagnostics and quicker issue resolution, while also enhancing data processing efficiency using Azure Event Hubs for streaming telemetry data.

- Promoted to Software Engineer II, where Xbox Live required a scalable and performant microservice solution to handle increasing user engagement data. Led the design and implementation of a cloud-native microservices architecture using.NET Core and Azure Functions, improving scalability and reducing data processing time. In the same period, faced challenges with manual deployment processes, which slowed down release cycles.
- Developed and implemented an automated CI/CD pipeline with Jenkins, GitHub Actions, and Docker, reducing integration and deployment times by 70% and improving the reliability of releases for Xbox Live.
- Worked on optimizing real-time telemetry analytics for Xbox's user behavior monitoring, where the existing system struggled with delayed reporting. Integrated Azure Stream Analytics and Power BI to provide real-time data visualization and predictive analytics, giving product teams immediate access to insights on user behavior and system health, enabling faster and more informed decision-making.

Music Producer / ML Engineer, *Self-Employed*

- Developed a Python-based pipeline using librosa and TensorFlow to automate genre classification from audio, reducing manual tagging time by over 50% and improving consistency across large music catalogs.
- Integrated Hugging Face Transformers to generate emotion-based tags and track summaries, enhancing metadata accuracy and consistency across streaming platforms.
- Deployed the system with FastAPI and Docker, creating a scalable service that automatically pushes metadata to streaming platforms, streamlining the release process for record labels and artists.
- Built a web-based dashboard using React and librosa to visualize spectral data, enabling producers to assess track quality and make data-driven improvements before release.
- Implemented an AI-driven feedback system for automatic spectral analysis and mastering recommendations, reducing the time required for quality validation and speeding up the production process.
- Integrated AI spectral analysis models to detect audio clipping, pitch drift, and tonal imbalances, providing actionable feedback for producers to ensure radio-ready quality.
- Released tracks on labels like Colorize, Anjuna, and Hathor, leading to Spotify editorial playlist features and airplay on Sirius XM.

Education

B.Sc. Computer Science, 2011 – 2013
University of Illinois at Chicago

A.Sc. Computer Science, *Elgin Community College* 2009 – 2011

Skills

Languages
Python, TypeScript, JavaScript, C#, SQL

Frameworks
React, Next.js, Node.js, Django, Flask, FastAPI

AI/ML
CNNs, Transformers, LLMs (GPT-, LLAMA 2), LangChain, PyTorch, TensorFlow, Hugging Face

Cloud / DevOps
AWS (S3, Lambda, SageMaker, ECS), Docker, Kubernetes, CI/CD (GitHub Actions)

Databases
PostgreSQL, MySQL, MongoDB, Redis, Vector DBs (Pinecone)

Other
Full-stack development, MLOps, AI integration, scalable web systems

Certifications & Awards

Featured on Spotify Editorial Playlists

AWS Certified Machine Learning - Specialty

TensorFlow Developer Certificate

Hugging Face Transformers Course

Interests

- AI and Machine Learning
- Generative Al Models
- Music Technology
- Web Development and Infrastructure
- Mentorship