Andrew X. Ding

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PROFILE

Passionate software engineer with a strong systems design and machine learning foundation. Navigates ambiguity by pairing holistic first-principles thinking with a move-fast, experimentally-driven development.

EDUCATION

Brown University | *Sc.B.in Computer Science*   Graduated May 2023
- Courses: Algorithms & Data Structures, Software Engineering, Computer Systems, Distributed Systems, Data Science, Machine Learning, Deep Learning, Computational Linguistics, Computer Vision, Blockchains & Cryptocurrencies

PROFESSIONAL EXPERIENCE

TikTok (Full-Time)   San Jose, CA, September 2023 – Present
Software Engineer, Ads Core Team
- Personalized ad displays for millions of users by modeling sensitivity via uplift modeling; batch-retrained model using XGBoost in X-Learner configuration; holdout exp. showed 2% gain in advertiser value from better personalization.
- Spearheaded industry-based frequency caps to reduce ad repetition on TikTok, played a crucial role in recovering stay duration metrics while maintaining advertiser value; written in C++ in targeting stage of ads recommendation system.
- Optimized SQL, Spark jobs for heavy (>1billion row) ETL workflows, decreased job time from 22 hrs to 40 mins.

TikTok (Summer Internship)   Mountain View, CA, June 2022 – August 2022
Software Engineer Intern, App Monetization Team
- Navigated the iOS14 data blackout by modifying existing ESMM architecture to use transfer learning on Android data to predict iOS user behavior; 5% AUC gains over the baseline model in A/B testing.
- Built and shipped 10 new sparse features for characterizing user external action patterns, increased advertiser value by 5% and user conversion rate by 2.6% in testing; MapReduce, Hive SQL complex queries used for data transformation.
- Improved training by creating a unified product ID using KNN clustering on app store descriptions. 9.2% AUC gains.

AUXPAD Notes, app.auxpad.com   Providence, RI, July 2020 – December 2021
Technical Co-Founder
- Founded notetaking startup using speech-to-text to help slow note-takers with in-person and remote meetings/classes.
- Launched AUXPAD on Product Hunt; transcribed over 3K minutes of audio for over 200+ loyal verified users.

PROJECTS

Generative UX Demo | *Python, BeautifulSoup* | GitHub, Try-it   San Francisco, CA, March 2024
- Explored the use of real-time generative UI in tailored user-to-AI interactions, entrant at the OpenAI hackathon.

NERF This | *Python, PyTorch, Neural Radiance Field* | GitHub, Paper, Poster   Providence, RI, Jan 2023
- Re-implementation of landmark NeRF paper in PyTorch to achieve 3D reconstructions from limited 2D images.
- Co-authored a paper detailing the project's methods, hyper-parameters, and results; presented at Brown CV demo day.

Recipe-ML | *Python, TensorFlow, LSTM-RNN* | GitHub, Devpost   Providence, RI, Dec 2021
- Architected and trained an LSTM model to generate new cooking recipes and steps by pretraining on a 150k dataset.
- Improved model generations by switching char embeddings for word embeddings, reducing average grammatical errors from 90% to 0.4% on 1000 sample generations.

ON-CAMPUS EXPERIENCE

Explainable AI Research Group | *Contributor*   Providence, RI, Jan 2023 – May 2023
- Steered the discourse in weekly discussions on the newest research in NLP, AI explainability, and alignment.

SKILLS & INTERESTS

Languages: Python, C++, Golang, Java, C, SQL, Typescript, HTML & CSS
Frameworks: TensorFlow, PyTorch, LangChain, NumPy, Pandas, Matplotlib, Seaborn, Scikit-learn, PySpark
Tools: Huggingface, Jupyter Notebook, Tensorboard, Streamlit, MySQL, HDFS, MapReduce, Vim, SSH, Git
Interests: Watercolor, Game Design