De Ren

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EDUCATION

New York University, New York   *New York, NY*
M.S. in Computer Science, Concentration in Artificial Intelligence   *Sep 2023 - May 2025*
- **Coursework:** AI, Cloud Computing, Computer Vision, Deep Learning Systems, LLM-based Generative AI Systems

University of California, Irvine   *Irvine, CA*
B.S. in Computer Science, Specialization in Algorithms   *2019 - 2023*
- **Honors:** Dean's Honor List
- **Coursework:** Program in C/C++, Intro to DATA MGMT, Intro Software ENGR, Machine/Data Mining, Computer Networks

SKILLS

- **Cloud & DevOps:** AWS (EC2, ECS, SageMaker, Lambda, DynamoDB, S3), GCP, Azure, Docker, Kubernetes, Git
- **Programming:** Python (9 years), C/C++, Julia, Shell, Go, SQL
- **Web development & Automation:** HTML/CSS/JS, Flask, FastAPI,cpanel/webmin, selenium, Redis, PostgreSQL, MySQL
- **Machine learning/Generative AI:** SkLearn, PyTorch, OpenAI API, Hugging Face, Anthropic API, LangChain, AutoGen
- **Certifications:** AWS Certified Machine Learning –Specialty, AWS CLF, AWS AIF

WORK EXPERIENCE

Datalynn   *New York, NY*
Machine Learning Engineer   *Jun 2024 - Aug 2024*
- Developed a **Python** module to extract video, follower, and comment data from over 1,000 TikTok creators via the **TikTok API**, providing data-driven insights for marketing strategies.
- Built a **search engine** for a TikTok creator dataset, capable of processing over 150 data points including product categories, follower distribution, etc., optimized with **OpenAI API** to improve influencer selection efficiency for product endorsements.
- Engineered a **Go**-based tool to automate data extraction from TikTok Sell Center, generating monthly Excel reports from 10+ matrices using the **TikTok Shop API**.

Beijing QuickMeow Technology Co., Ltd   *Beijing, China*
Software Engineer - AIGC Algorithm   *Jun 2023 - Aug 2023*
- Developed an AI veterinarian chatbot using **ChatGPT API**, **Langchain**, **Chroma,** and **Llamaindex**, which conducts a diagnostic interview through three rounds of questions, refining disease diagnosis based on symptom descriptions and user responses.
- Implemented a **recommendation engine** within the chatbot using **Gradio** that suggests products from 10+ categories, such as toys for pets that like to chew, by matching user inquiries to our database; contributed to a prototype that secured a $3 million Angel investment round.
- Enhanced chatbot accuracy by 23% by indexing veterinary diagnostic books into structured data using **Adobe PDF Extract API**, allowing the chatbot to rapidly locate relevant content in response to specific topics or symptoms.

PROJECT

NYU/Citi Trading Competition Platform *(Jun 2024 – Aug 2024)*   *New York, NY*
- Designed an **agent** with **Anthropic API** and **AutoGen** to generate and refine trading bots based on a template. Enabled agents to discuss, critique, and improve strategies while verifying and adapting code to fit templates without losing functionality.
- Utilized **Assistance API** to debug generated bots using PyLint and simulate data. Designed workflows to ensure the bot can integrate with the online competition platform, adopted by the Citi Competition platform.

Web Development *(Aug 2024)*   *New York, NY*
- Developed a [personal website](#) using **FastAPI**, **node.js**, **React**, and Apache, managed via Webmin and secured with SSL on a Godaddy VPS.
- Built an [automated daily news platform](#) integrating **Google Search API** for content aggregation, **DeepSeek v3** for AI-generated article drafting, and **DALL·E** for image creation. Automated workflows via **GitHub Action**s execute a Python script daily, storing content in AWS **DynamoDB** and **S3**.
- Engineered a [ChatGPT-like chatbot platform](#) with a Next.js and React front end, backed by a **Dockerized FastAPI service**. Managed container images via AWS **ECR** and deployed them on AWS **ECS** with **Fargate**, integrating ChatGPT, Claude, and DeepSeek v3 for multilingual and context-aware conversations with prompt optimization and memory retention."
- Enhanced functionality by deploying **Whisper models** on **EC2** with Docker for **speech-to-text processing**, enabling voice-based interactions.

AI-Powered Cocktail Generation and Recognition System(*Nov 2024)*
- **Developed a liquor recognition pipeline** by gathering images with the **Bing Web Search API** to create a custom HF dataset, fine-tuning a **YOLOv8 model** for liquor bottle detection. Deployed the model on **AWS SageMaker** and integrated it with a **Lambda function** and **API Gateway** to process recognition requests and enable client interactions.

Poker Strategy Analysis Using LLMs with Fine-Tuning *(Sep 2024 – Dec 2024)*   *New York, NY*
- **Designed a data extraction pipeline** using **YouTube Data API v3** to retrieve video subtitles about poker strategies, complemented by **Selenium web crawlers** for additional insights on poker gameplay from the internet. Processed and stored the data in **AWS DynamoDB**, creating a dataset to fine-tune a **GPT-4o Mini** model for generating strategy explanations and analyses.