Jiaming (Mike) Deng

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EDUCATION

UNIVERSITY OF PENNSYLVANIA **Philadelphia, PA**
Master of Science Engineering, Systems Engineering *August 2025 - December 2026*

UNIVERSITY OF WASHINGTON **Seattle, WA**
Bachelor of Science, Major in Informatics (Data Science Track) *August 2021 - August 2025*
Bachelor of Art, Major in Psychology
Club: Amazon Web Service Club (President, leveraged **AWS services**, including **EC2, S3, and Lambda**, focusing on infrastructure as code, database optimization, and the integration of real-world applications and showcase to students)

SKILLS

Machine Learning & AI: PyTorch, Scikit-learn, machine Learning, Whisper, Feature Engineering, Multi-agent AI (LangGraph, ReAct)

Data Engineering & Analytics: Python, SQL (PostgreSQL, Teradata, DuckDB), Pandas, NumPy, Data Pipelines, Data Warehousing

Backend & Full Stack: Django, RESTful APIs, Java, JavaScript (ES6), React, Flutter, dart

Cloud & MLOps: AWS (SageMaker, EC2, S3, RDS, Lambda, ECR), Docker, GitLab CI/CD, Workflow Automation

PROFESSIONAL EXPERIENCE

CISCO SYSTEMS **Research Triangle Park, NC**
Data Engineering Intern *June 2025 – August 2025*
• Built a multi-agent AI orchestration system **(LangGraph + ReAct)** that cut SQL workflow runtime by **80%** for incremental Annual Contract Value analysis, accelerating decision-making for sales and finance teams
• Developed **langgraph AI agents** for parameter extraction, SQL execution, and reporting, enabling autonomous BI query handling
• **Reduced query latency from 20s to 3s** by engineering a Pandas + DuckDB caching layer, which also lowered Teradata compute costs
• Designed ML pipeline for prediction on **1M+ transactions**, using Random Forests and XGBoost with hyperparameter optimization, enabled account teams to proactively identify high-probability renewal opportunities for **profit**
• **Achieved >0.90 AUC** by applying advanced feature engineering, significantly boosting model accuracy
• **Generated 1.4M labeled training pairs** by constructing a scalable labeling system across attributes like timing, hierarchy, PID, channel, and site affinity, providing high-quality data for model training, lowering long-term manual label costs
• Presented project outcomes to **200+** Cisco employees across departments; received **strong engagement** and follow-up inquiries from stakeholders who sought to adopt and extend the system to their workflows

UNIVERSITY OF WASHINGTON - Paul G. Allen School of Computer Science & Engineering **Seattle, WA**
Research Assistant – Backend Development, Advisor: Prof. Ben Shapiro *February 2025 - June 2025*
Selected as 1 of 20 students for a competitive research internship on AI fairness in speech systems
• Delivered an **AIOps** backend for a platform for training and examine custom speech transcription models to explore AI voice bias, an end-to-end platform to analyze how AI transcription accuracy varies across accents and speaker demographics
• **Optimized large-scale data queries** by designing a PostgreSQL schema with indexing and partitioning, deployed on AWS RDS for high-performance storage and retrieval
• **Enhanced system reliability and security** by developing 20+ RESTful APIs in Django with error handling, permissions, and structured responses
• Fine-tuned **WhisperTiny** model for accented speech transcription with PyTorch
• Deployed containerized environments with **Docker** and automated CI/CD pipelines via GitLab
• **Simplified data management** by creating S3 storage with project-scoped paths for recordings, models, and training artifacts, resulted in universal access
• Integrated **Amazon SageMaker** with custom **ECR** images for automated dataset and subset training workflows

PUBLICATIONS

Phoebe Yiqing Huang, **Jiaming Deng**, Yingchen Yang, and Spencer Williams. 2025. Empowering Creators in the Fight Against Online Hate: A Qualitative Exploration of AI-Mediated Counterspeech Tools. Proc. ACM Hum.-Comput. Interact. 9, 7, Article CSCW408 (November 2025), 28 pages. https://doi.org/10.1145/3757589