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PROFESSIONAL SUMMARY

Ph.D. in Computer Engineering with 5+ years of experience in Applied Machine Learning, large-scale data architecture, and predictive modeling. Proven track record of architecting scalable backend systems, Agentic AI workflows, and automated ETL pipelines to drive business impact and enterprise-grade reliability. Expert in defining product strategy through data, conducting rigorous experimentation, and translating complex educational datasets into actionable intelligence. Combines deep technical expertise in Python, SQL, Microsoft Fabric, and PyTorch with a strong intuition for user behavior and digital ecosystem optimization.

TECHNICAL SKILLS

- **Data Science & Analytics:** Predictive Modeling, Time-Series Forecasting, A/B Testing, Bayesian Inference, Causal Analysis, Advanced DAX, Power BI.
 - **Engineering & Big Data:** Python, Advanced SQL (Stored Procedures), Microsoft Fabric, Apache Spark, Databricks, Airflow, Multi-table Data Joins, Feature Engineering.
 - **Machine Learning & AI:** Agentic AI Systems, Recommendation Engines, Deep Learning, NLP, PyTorch, TensorFlow.
 - **MLOps & Production:** FastAPI, Docker, Kubernetes, CI/CD, Git, AWS (S3, Lambda), Secure Data Endpoints, QA Protocols.
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PROFESSIONAL EXPERIENCE

Expatriate Communications | Pasadena, CA *Senior Data Scientist & Software Engineer* | Dec 2022 - Present

- **Core Data Architecture & Agentic AI:** Architected the backend systems and ML models powering the iTAAP platform, serving nearly 30 school districts. Modernized data pipelines using Microsoft Fabric, Python, and advanced SQL stored procedures. Designed and implemented a sophisticated Agentic AI system to automate complex ETL processes and data routing, reducing overall data processing time by 90%.
- **Predictive Analytics & BI Development:** Engineered core analytical suites driving daily client engagement using advanced DAX and Power BI. Developed an Assessment Integration Engine that standardizes disparate local assessments (iReady, NWEA, IXL) and maps them directly to State Testing levels for real-time academic progress prediction.

- **Cross-Platform API & Quality Assurance:** Developed, deployed, and managed secure RESTful data endpoints (FastAPI) to seamlessly enable cross-platform utilization of centralized data for company products. Proactively established rigorous test cases and standardized QA protocols to guarantee enterprise-level data integrity and stability.
- **Product Strategy & Compliance Tracking:** Engineered automated 'iTAAP Insights' email alerts to notify districts of at-risk students requiring early intervention. Built critical visualization dashboards tracking FAPE Compliance, IEP Risk Projections, Educational Achievement Gaps, and SPP Indicators, significantly increasing client reliance.
- **Team Leadership & Mentorship:** Directed and mentored data scientist interns to accelerate engineering velocity, guiding the development of internal automation tools for the VillageED platform and optimizing the operational lifecycle.

University of Delaware | Newark, DE *Research Scientist (Cybersecurity & Data Mining)* | July 2017 - Dec 2022

- **Observational Data Analysis:** Engineered a detection pipeline analyzing 436,000+ endpoints, performing complex joins and statistical analysis to identify behavioral patterns and anomalies with 76.42% accuracy.
- **Algorithm Design & Optimization:** Developed machine learning algorithms to detect system anomalies with 90% accuracy through rigorous feature selection, causal inference techniques, and iterative model refinement.
- **Mentorship & Leadership:** Mentored junior researchers and students in applied data science techniques, establishing best practices for code reproducibility and scaling research impact.

EDUCATION

Ph.D. in Computer Engineering University of Delaware | Newark, DE

M.S. in Techniques & Applications of Synchrotron Radiation University of Science and Technology of China (USTC) | Hefei, China

B.E. in Mechanical Engineering & Automation University of Science and Technology of China (USTC) | Hefei, China

SELECTED PUBLICATIONS & AWARDS

- **IEEE INFOCOM 2024:** *Silent Observers Make a Difference: Large-Scale Analysis of Transparent Proxies.*
- **Computer Networks 2022:** *Shining a Light on Dark Places: Open Proxy Ecosystem Analysis.*

- **Award:** Ranked in Top 1% (44th out of 3,935) in the SANS CyberStart Cybersecurity Competition (2017).