Aman Agrawal

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Skills

Core	Python, Java, Machine Learning, Data Science, Big Data, Prompt Engineering, LLM Fine Tuning, JavaScript, Kotlin, Scala, Typescript, ReactJS, DotNET, Multiplatform development
Additional	AWS, Azure, Machine Learning, Spark, Kafka, Docker, Spring, SpringBoot, SQL, MongoDB, Cassandra

Professional Experience

Software Engineer 2   Jan 2024 – Current
Microsoft   Microsoft Defender for Cloud Apps (AppGovernance)

- Led data resiliency improvements, achieving a 0% user identification error rate by optimizing the database layer and schema
- Boosted data ingestion SLA by 25% through rearchitected processing workflows, enhancing efficiency
- Implemented platform level user validation and waitlisting features, enabling 25% faster customer response processes to prevent on-boarding errors
- Increased big data job performance, cutting false positive alerts by 30% to improve operational metrics
- Established federated database connections for production systems under the Midnight Blizzard initiative, strengthening system integration and reducing platform security risks by 12%

Software Engineer 2   Jul 2020 – Sep 2023
Amazon   Search Quality and Performance Advertising Teams

- Architected and implemented product clustering framework reducing search sparsity by 100 basis points, driving $7M revenue growth in Arabic markets
- Led optimization of keyword search experimentation pipeline, generating $62M in additional revenue through enhanced synonym matching
- Developed ML-powered real-time query ranking engine utilizing contextual relevance, improving search result accuracy by 350 bps
- Engineered AWS cost optimization strategy delivering $2.28M annual savings: $1.2M through KMS usage optimization and $1.08M via EMR infrastructure improvements
- Built semantic query augmentation framework achieving 3% improvement in model recall and 15% precision for negative label classification
- Reduced AWS Lambda throttling by 15% through implementation of provisional configurations and Kinesis data sharding optimization

Internships

Software Engineer Intern   Jun 2019 – Jun 2020
Amazon   International Machine Learning Team

- Conceptualized framework for automated advertising relevance score calculation saving $\geq$ 16K hours of annualized bandwidth
- Developed and launched a tool to perform customer review analysis for Amazon products, resulting in significant time savings and $\geq$ 10K product launches during Diwali 2019 sale

Projects

- **LLM Task Organizer** Fine-tuned LLMs for automated event planning and calendar management
- **BuilderBob** Template-driven interface for streamlined package build automation
- **Query Expansion Framework** Multilingual search enhancement system optimizing query alternatives for improved recall of 448 basis points
- **Real-time Query Ranker** Linear regression-based ranking algorithm for search engine optimizations
- **Semantic Augmentation Pipeline** Query augmentation system for enhanced model training accuracy by 15%
- **RelBERT** NDCG evaluation framework analyzing sponsored product performance metrics, saving 16000 work hours with running cost of $200

Education

Georgia Tech Institute of Technology, Atlanta (Online)   Jan 2024 – Current
Masters of Science (MS)   College of Computing

KIIT University, Odisha   Jul 2016 – Apr 2020
Bachelors of Technology   Computer Science Engineering