

Vedant Bhat

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SUMMARY

SDE II and Georgia Tech MSCS graduate specialized in designing and building **scalable distributed systems and low-latency AI/ML pipelines**. Experienced in delivering infrastructure that supports **real-time AI inference across large-scale data systems**.

EXPERIENCE

AMAZON WEB SERVICES

Seattle, Washington

Software Development Engineer II

Oct 2025 – Present

- Developing a real-time rules engine processing **3B+ Host/CVE** evaluations per day (~35K TPS) using ECS, Lambda, and SQS.
- Owned end-to-end system design**, including database schema design, backpressure handling, observability and monitoring, and failure recovery to ensure correctness and reliability under sustained high-throughput traffic.
- Leveraging task-specific LLMs** to recalibrate CVSS scores based on contextual risk, increasing security posture by escalating critical threats while reducing builder fatigue by filtering out low-risk false positives.

AMAZON

Seattle, Washington

Software Development Engineer I

Jan 2024 – Sep 2025

- Architected and deployed an LLM-powered content moderation and curation pipeline for Amazon Homepage, Search, and Detail Page, increasing throughput from **144K/year (manual) to 13M/year** and delivering **~\$700K in annual cost savings**.
- Served as a core engineer on Amazon's Content Recommendations Service, implementing request caching with Memcached and optimizing service logic to cut P99 latency by ~50% (79ms → 41ms) under Prime Day-scale traffic (~10K TPS).
- Led the training and deployment of two ML classifiers using XGBoost: one predicting content engagement and one predicting human curator approval, improving content ranking and moderation decisions in Shop-by-Interest feeds.
- Built a semantic content search system **indexing 1.2M+ photos and videos** using large-scale embeddings and vector search to surface high-quality content recommendations for complex customer search queries.

Software Development Engineer Intern

May 2022 – Aug 2022

- Engineered an automated service to streamline the creation of a Visual Review (VR), an innovative advertising format within Amazon's retail catalog, by leveraging AWS services, including CDK, API Gateway, Lambda, and S3.
- Designed and delivered an automated workflow that resulted in the dynamic generation of SVG images by programmatically combining a background SVG and a popular product review, streamlining a previously manual process.

IBM

RTP, North Carolina

Software Engineer in Test Intern

May 2021 – Dec 2021

- Automated regression and integration testing for IBM DataPower Gateway using Java, JUnit, and REST Assured, integrating with Jenkins CI/CD pipelines to validate APIs and configurations while cutting manual QA effort by 120 hours annually.
- Created scalable test frameworks and data strategies that enhanced coverage of key features, supporting continuous integration and reducing QA bottlenecks.

FISERV

Alpharetta, Georgia

Software Engineer Intern

May 2020 – Aug 2020

- Built a JavaFX simulation platform enabling engineers to design debit routes and test real-time payment processor integrations.

SKILLS

- Programming Languages:** C++, Java, Python, SQL, TypeScript, Rust, C
- Cloud Infrastructure:** AWS (ECS, Lambda, S3, DynamoDB, SageMaker, Step Functions, CloudWatch, CDK, IAM, API Gateway), Kubernetes (EKS), Docker (ECR)
- AI & Data:** PyTorch, Pandas, RAG, Vector Databases, Semantic Search, LLM Integration, Model Training/Evaluation
- System Design & Architecture:** Distributed Systems, Event-Driven Architecture, Stream Processing (Kafka/SQS), Microservices (REST, gRPC, GraphQL), Fault Tolerance, Caching Strategies (Redis/Memcached)
- Operational Excellence:** Scalable Request Handling, Observability and Metrics, Throughput Management, Failure Recovery
- Graduate Coursework:** Operating Systems, High Performance Computing Architecture, High Performance Computing Algorithms, Artificial Intelligence, NLP, Algorithms, Computer Graphics, Scientific ML, High-Dimensional Data Analytics

EDUCATION

GEORGIA INSTITUTE OF TECHNOLOGY, College of Computing

Atlanta, Georgia

Master of Science in Computer Science

Dec 2024

- Specialization: Machine Learning and Computing Systems, Scholarships: Terrill Graduate Fellowship

GPA: 4.0

Bachelor of Science in Computer Science

May 2023

- Specialization: Artificial Intelligence and Information Internetworks, Scholarships: Zell Miller

GPA: 3.8