MANAS AGGRAWAL

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EDUCATION

Northeastern University **Boston, MA**
Masters of Science – Computer Science | GPA: 3.83 *Sep 2024 – Aug 2026*

- Relevant Coursework: Algorithms, Programming Design Paradigms, Principles of Programming Languages
- Graduate Teaching Assistant for Fundamentals of Software Engineering (CS 4530)

WORK EXPERIENCE

Hydrow **Boston, MA**
Software Engineer Intern *Jan 2026 – Present*

- Building scalable backend services for Hydrow's platform team using NestJs, PostgreSQL, Redis and message queues

Studio Graphene **Gurgaon, India**
Software Engineer *May 2021 – Jul 2024*

- Built serverless engineering analytics platform using AWS Lambda to pinpoint bottlenecks like high PR wait times, frequent build failures, and blocked dependencies, reducing cycle time and boosting engineering velocity by 23%
- Built distributed, event-driven microservices using AWS SQS messaging queues for decoupled data ingestion and processing, reducing response latency by ~40%
- Ingested raw data from 10k+ weekly events from third party sources into Elasticsearch and ran aggregation queries to calculate high level metrics
- Built automated retry scripts to fetch failed messages from DynamoDB and reprocess via SQS batch writes, eliminating manual intervention and reducing message failure resolution time from hours to minutes
- Built scalable Node.js/TypeScript REST API backend processing 2M+ API requests daily, designed PostgreSQL schema with partitioning and indexing strategies to handle 500GB+ product catalog data and real-time cross-region inventory sync
- Deployed docker containerized microservices on AWS ECS, built CodePipeline CI/CD workflows, configured CloudWatch alarms, and integrated SES for email notifications on deployment failures and system alerts

Studio Graphene **Gurgaon, India**
Junior Software Engineer *Nov 2020 – May 2021*

- Developed real-time tracking and competitive scoring algorithm using Node.js/PostgreSQL with read replicas and connection pooling to serve 100K+ active users, for oddchecker's betting platform
- Engineered production-ready Python Django backend REST framework which was adopted by 10+ teams
- Implemented Redis caching, cutting repeated Algolia API calls and reducing response latency from ~300ms to ~100ms
- Implemented TDD and Trunk-based development practices using Jest and PyTest, achieving 20% faster release cycles

RESEARCH

Typed Conversational Interfaces | *Principles of Programming Languages* **Boston, MA**
Research Apprentice *Sep 2025 - Dec 2025*

- Co-authored "Towards Typed Conversational Interfaces" with Prof. Chris Martens, accepted at PLATEAU '26
- Developed a type system for ensuring well-formed dialogue states in conversational interfaces

PROJECTS

Performance Monitoring Tool | *Nodejs, TypeScript, AWS X-Ray, npm, OpenTelemetry, cloudwatch, Jaeger, Prometheus*

- Built and published a package on npm, enabling end-to-end distributed tracing across APIs, DB queries, and async tasks thereby reducing mean debugging time by ~60%
- It has over 450+ downloads on npm

TECHNICAL SKILLS

Languages:	JavaScript, TypeScript, Java, C++, Python
Frameworks:	Node.js, Express.js, NestJS, Django, Laravel, React
Database:	SQL, Postgres, MySQL, NoSQL, MongoDB, Elasticsearch, Amazon DynamoDB, Firebase
Cloud & DevOps:	Cloud Computing, AWS (Lambda, S3, SQS, DLQ, X-Ray), Docker, CI/CD, cloud infrastructure
Others:	Git, Sentry, OpenTelemetry, linux, REST APIs, web architecture, frontend, agile, SDLC