

# Joshua Segal

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## EDUCATION

### Northeastern University

Boston, MA

*Bachelor of Science in Computer Science, AI concentration, Math minor*

**Expected: May 2026**

**Honors:** GPA: 3.7 | Dean's List (all semesters)

**Relevant Coursework:** Artificial Intelligence | Machine Learning | Natural Language Processing | Neural Networks  
Matrix Methods in ML | Calculus I, II, III | Linear Algebra | Probability & Statistics | Discrete Mathematics Software  
Engineering Algorithms & Data Structures | Object Oriented Programming | Computer Systems | Database Design

## TECHNICAL SKILLS

**Languages:** Python | TypeScript/JavaScript | Rust | C | Java | SQL

**Frameworks:** FastAPI | Flask | Django | React | Node.js | Express.js | Tokio | SQLAlchemy | Prisma

**ML/AI:** PyTorch | TensorFlow | LLMs | RAG | Computer Vision | Fine-Tuning

**Tools:** AWS (ECS, RDS, Lambda, S3) | PostgreSQL | Supabase | Docker | Terraform | Git

## EXPERIENCE

### Co-Founder & CTO

April 2025 - Present

*ZoneIQ - AI-Native Real Estate Brokerage*

*Boston, MA*

- Generated **\$10k+** revenue across **5** brokerage firms and secured **\$3k** seed funding for AI property analysis
- Built proptech platform eliminating **1k+** hrs/mo manual research via **web scrapers** analyzing **180k+** properties
- Deployed **research agent** searching **9k+** filings to identify comparable deals with **GPT-4o** and **Playwright**
- Developed **multi-agent AI** lead qualification system reducing time to respond from **2 hours to 4 seconds** through multi-step conversations using **Python** and **LLMs**, processing **1k+** messages/month
- Implemented custom agent router handling **5+** agents with **99%** routing accuracy using dynamic prompt injection

### Tech Lead, Software Engineer

July 2025 - Dec. 2025

*NExT Consulting*

*Boston, MA*

- Led team of 6 engineers building production warehouse management system for hardtech manufacturer using **Python/React**, eliminating **20 hrs/wk** manual tracking, improving accuracy from **50%** to **95%** for **10k+** items
- Designed **PostgreSQL** schema with **100k+ rows**, **50+** tables, **250+** fields, implemented alembic database migrations across dev/staging/prod, optimized data access patterns, achieving **2x** reduced network transfer volume
- Architected and deployed containerized **AWS infrastructure (ECS, RDS, S3)** using **Docker** and **Terraform** IaC with **CI/CD** pipeline (test, lint, build, deploy), supporting **250+** concurrent users

### Machine Learning Engineer

July 2024 - Dec. 2024

*Harvard Research Lab*

*Boston, MA*

- Built end-to-end **ML infrastructure** training **U-Net** from scratch and fine-tuning **CNNs** locally, reduced analysis time from **20 min to 0.5s/image**; developed automated data pipeline handling preprocessing for **5000+** images
- Designed local database schema managing model versioning, experiment tracking, and artifact storage for **100+** training runs with full reproducibility, enabled **6+** researchers to iterate on models locally
- Increased segmentation precision from **61% to 93%** by implementing multi-user labeling using STAPLE algorithm

## PROJECTS

### NLP Similarity Framework | [Github](#) | [Report](#)

- Developed a framework for evaluating research presentation-paper similarity, achieved 76% recall on human labels
- Designed and implemented LSTM RNN, distilBERT, Logistic Regression NLP models for text entailment, achieved 62% validation accuracy across 570k samples, employed Bayesian Optimization for hyperparameter tuning

### Calendar Automation System | [GitHub](#)

- Built **AI** system with locally-deployed fine-tuned **distilBERT** model for calendar classification, eliminating cloud API costs and reducing latency by **75%** across **200+** events
- Trained **classification** model using synthetic dataset of **10k+** examples to overcome data scarcity
- Architected **Node.js** inference server for local model serving with Notion API integration, saving **5+** hours/week