Arjun Bhat

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Summary:

Master's student in Computer Science seeking Software Engineering and Machine Learning roles, experienced in developing scalable web applications, RESTful APIs, CI/CD pipelines, and ML-driven solutions

Work Experience:

Wellington Management, Boston, MA **Jan. 2024 – July 2024**

Full-Stack Software Engineer Co-op

- Led sprint retrospectives, Jira task tracking, and optimized Jenkins CI/CD pipelines (Docker, Kubernetes), enhancing offshore team efficiency, reducing code review time, and cutting build times ~30%
- Developed SpringBoot RESTful APIs in collaboration with researchers and portfolio managers, aligning with investment workflows and improving data retrieval efficiency
- Boosted React app performance via code-splitting, lazy loading, and reusable design patterns (HOCs, custom hooks)

ARIA Cybersecurity Solutions, Boston, MA **Jan. 2023 – July 2023**

DevOps and Quality Assurance Software Engineer Co-op

- Automated ~70% of test cases for the zero-trust model using Jenkins, accelerating release cycles and enhancing product quality
- Developed comprehensive test plans, including load testing with Locust (increasing security testing coverage ~40%), and integrated developer feedback via agile tools to ensure timely issue resolution

30SCE - Singapore Armed Forces, Singapore **Oct. 2019 – Sep. 2021**

Full-Stack Project Engineer

- Implemented a Next.js-powered full-stack inventory management system using Cypher queries and a Neo4j database while managing three warehouses that housed restricted equipment for military applications

Khoury College of Computer Sciences, Boston, MA **Sept. 2021 – Present**

Head Teaching Assistant: Artificial Intelligence / N.L.P. / Algorithms and Data Structures / Discrete Structures

- Led 30+ TAs and collaborated with professors to develop course content, exams, and assignments for 7 semesters
- Taught weekly recitations to 50+ students, graded assignments, and held office hours

Education:

Northeastern University, Boston, MA

Khoury College of Computer Sciences

Master of Science in Computer Science **GPA: 4.0/4.0**

Related Courses: Artificial Intelligence, Natural Language Processing, MLOps, Algorithms and Data Structures, Web Development, Computer Systems, Information Retrieval, Computer Networks

Bachelor of Science in Computer Science (Summa Cum Laude) – Concentration in A.I. **GPA: 4.0/4.0**

Related Courses: Machine Learning, Object-Oriented Design, Database Design, Cybersecurity, Software Engineering, Business Analytics

Activities: Northeastern Association for Computing Machinery (Founding Member), Northeastern Electric Racing (Developer)

Personal Projects:

SupplySense: MLOps for Demand Forecasting **Jan. 2025 – Present**

- Automated TensorFlow-based ML pipelines by integrating Kafka for real-time data streaming, Airflow orchestration, and Docker containerization, enabling Kubernetes-based scalable deployment and secure data storage with GCP buckets
- Optimized inventory forecasts using SARIMA, LightGBM, and XGBoost models, minimizing RMSE for precise demand planning

LinguaSummarize: Multilingual Document Summarization and Translation **Aug. 2024 – Oct. 2024**

- Engineered a Transformer-based multilingual document summarization and translation MVP with custom-trained models and ROUGE-based performance evaluation based on Google's "Attention Is All You Need" with NumPy, Pandas, and TensorFlow

CivicConnect: Congressional Engagement Platform **Sept. 2023 – Dec. 2023**

- Built a GPT-4 based system to manage and facilitate constituent messages to Congress while working in tandem with members of the House of Representatives and the House Administrative Office - soliciting input from members and public focus groups

StoreEasy: Distributed Inventory Management System **May 2023 – Aug. 2023**

- Created a decentralized platform enabling Northeastern University users to rent storage spaces and moving services, using React, Flask, Next.js, Tailwind, and PostgreSQL

PatternPix: Java Image Processing Suite **June 2022 – Aug. 2022**

- Engineered a Java based image processing application with a JSwing GUI and a design rooted in decoupled MVC architecture
- Employed SOLID principles and OOP design patterns (ie. command, builder, and factory) to enhance modularity and extensibility

Technical Knowledge:

Programming Languages: Python, Java, TypeScript (JavaScript), C++, SQL, HTML/CSS, MATLAB

Frameworks & Tools: React, Next.js, Node.js, Tailwind, Prisma, PyTorch, TensorFlow, Scikit-learn, Tableau, Power BI, Selenium

Databases: SQL Server, Oracle SQL, MongoDB, PostgreSQL, GraphQL

Cloud & DevOps: Docker, Kubernetes, AWS EC2, AWS S3, GCP, Jenkins, GitHub Actions, Apache Airflow, Vertex AI