# Victor Verma

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## EDUCATION

**Boston University** **Boston, Massachusetts**

*B.A. in Mathematics and Computer Science, Minor in Data Science* *May 2025*

- **Honors:** 3.87 GPA, 6x Dean's List, UROP Student Research Award.
- **Relevant Courses:** Algorithms, Computer Systems, Database Systems, Distributed Systems, Functional Programming, Machine Learning and AI, Software Engineering, Differential Equations, Linear Algebra, Multivariate Calculus, Probability, Stochastic Algorithms, and Stochastic Processes.

## WORK EXPERIENCE

**Savvas Learning Company** **Boston, Massachusetts**

*Software Development Engineer Intern* *Jun 2024 – Aug 2024*

- Developed a chatbot assistant for 400+ employees to efficiently query enterprise documentation and the codebase using an Amazon Bedrock Retrieval-Augmented Generation (RAG) pipeline and the LlamaIndex API.
- Constructed a comprehensive knowledge base of 500+ Confluence documents and GitHub README files for the RAG pipeline by leveraging the Confluence and GitHub APIs to automate the upload of documents in S3 buckets.
- Designed a FastAPI backend with Google OAuth to implement role-based access for employees, integrating a Gradio frontend with the chatbot service deployed using AWS Lambda.

**Questrom School of Business, Boston University** **Boston, Massachusetts**

*Research Assistant* *Jan 2023 - Present*

- Created a novel dataset documenting the education and work history of 150,000 U.S. State Legislator candidates from 1967 to 2017, discovering only 40% of candidates have biodata available online.
- Collected and filtered biodata from 600,000 web pages and pdfs by engineering Python software leveraging the Google Search API, the OpenAI API, pandas, and BeautifulSoup.
- Implemented neural network, random forest, XGBoost, and k-nearest neighbors models achieving a 72% accuracy rate and 0.80 f1 score in classifying biodata outputs as true or false.
- Increased data collection efficiency by 16x by implementing multithreading, rate limiting, and error handling.

**Kappa Theta Pi Professional Technology Fraternity - Lambda Chapter** **Boston, Massachusetts**

*App Committee Head* *Sep 2023 – Aug 2024*

- Designed and developed a centralized website hosting academic and professional resources for 80+ fraternity members, including course details, professor reviews, and important information.
- Led a 6-member team in building a full-stack web app using React, Node.js, Supabase, and MongoDB, and Google OAuth using Firebase, integrating Dockerized shell scripts to streamline data updates.

## PROJECTS

**Letterboxd Movie Recommendations**

- Generated movie recommendations for 800+ users in 50+ countries by engineering a content-based filtering system leveraging random forests and 45,000+ data points, and deployed a full-stack web app using React, TypeScript, Tailwind CSS, Flask, and Supabase.
- Displayed 10+ unique user profile statistics, updated in real-time based on activity from other users across the platform, and a downloadable data visualization of individual movie rating habits.
- Automated the weekly scraping of Letterboxd data and a monthly user statistics update using 2 GitHub actions.

**StatSense AI**

- Built LSTM and Simple RNN models with TensorFlow to forecast NFL statistics for QBs, RBs, WRs, and TEs using weekly statistics in time series, achieving a 75% success rate against player props set by sportsbooks.

## SKILLS

**Languages and Frameworks:** Python, SQL, JavaScript/TypeScript, HTML/CSS, React, Node.js, Flask, Supabase, MongoDB.
**Tools and Libraries:** AWS, pandas, Scikit-Learn, NumPy, TensorFlow, Matplotlib, BeautifulSoup, Docker, Git.