

# Sebastian Thomas

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## EDUCATION

- **Northeastern University** Boston, MA
  - *Master's in Artificial Intelligence (GPA: 3.92)* *Sep 2024 - Expected Dec 2026*
    - Courses: Foundations of Artificial Intelligence, Programming Design Paradigms, Reinforcement Learning
- **Mar Athanasius College of Engineering** Kerala, India
  - *Bachelor of Technology in Computer Science and Engineering (CGPA: 8.45/10.0)* *May 2020*
    - **Best outgoing student, Computer Science Department**
    - Relevant coursework: Calculus, Linear Algebra and Complex Analysis, Probability Distributions, Transforms and Numerical Methods (**graded Outstanding in all**)

## SKILLS

**Languages:** Python3, C++, C, SQL, Java      **Databases:** MS-SQL, AzureSQL, AWS-RDS, PG-SQL  
**Operating Systems:** Windows, Linux (CentOS, Red Hat)      **Frameworks\Libraries:** PyTorch, TensorFlow, pandas, NumPy, Hugging Face, LangChain, selenium, transformers, beautifulsoup4

## WORK EXPERIENCE

- **Center for Advancing Teaching and Learning Through Research (CATLR)** Boston, MA
  - *AI Instruction Assistant* *Jan 2025 - Current (Part-time)*
    - Collaborated with Northeastern faculty to explore the integration of GenAI tools like Claude and ChatGPT in the curriculum.
    - Designed LLM prompts to support academic tasks and improve educational effectiveness.
- **Commvault Systems** Bangalore, India
  - *Senior Engineer (Automation, Systems, and Software Tools)* *Jan 2020 - July 2024*
    - **Designed and implemented a C++ tool** to simulate server bottlenecks by generating high-load parallel requests, enabling performance benchmarking and fault detection under stress conditions
    - Built an **AI-powered Microsoft Teams bot** that retrieved and summarized CRM tickets using NLP, improving support ticket triage and resolution speed.
    - Led **Python automation** for SQL backup and recovery workflows, reducing manual overhead and ensuring process scalability and compliance with QA standards
    - Served as the **primary owner of Application-Aware Backups**, leading feature development, enhancement requests, and customer-facing support.
    - Resolved 50+ critical escalations and maintained internal documentation for data protection features across cloud and virtualized systems
    - Worked extensively with **virtualization technologies, databases** (MS-SQL, cloud DBs - AWS RDS, Azure), and **UNIX/Linux environments**.
    - Specialized in **SQL disaster recovery**, optimizing failover strategies and data protection for mission-critical systems.
    - Mentored **two interns**, providing guidance on database backup, automation, and best practices in enterprise software development.

## PROJECTS AND ACHIEVEMENTS

- **Improving multi-agent collaboration in Large Language Models:**
  - Benchmarked collaborative behavior using LLaMA 8B/70B models from Hugging Face. Fine-tuned 8B model for cooperative agent tasks, significantly improving alignment and reasoning.
  - Designed grid-based environments with structured tasks to evaluate zero-shot vs fine-tuned performance.
- **Voice Separation using RNN:**
  - Built a deep learning model using RNNs to isolate speakers in mixed audio samples, achieving over 90% accuracy in speaker separation tasks.
- **Atari Pong – DQN Agent with CNN:**
  - Trained a CNN-based DQN agent for Atari Pong; achieved human-level play with +18 average reward after 1M frames.
- **Fashion MNIST – CNN Classifier:**
  - Developed a convolutional neural network (CNN) using PyTorch to classify Fashion MNIST images across 10 categories
  - Achieved 91.3% test accuracy, using ReLU activations, max pooling, and dropout for regularization
- **Northeastern University Chatathon winner, 2024:**
  - Won 1st place for designing a context-aware prompt that helped 5,000+ students receive accurate course recommendations using Perplexity.
  - Engineered adaptive prompts to tailor results based on student needs, improving usability and response quality.