Sebastian Thomas

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EDUCATION

Northeastern University - Khoury College of Computer Sciences — Boston, MA
Master's in Artificial Intelligence (GPA: 3.92) — *Sep 2024 - Expected Dec 2026*
- Courses: Foundations of Artificial Intelligence, Machine Learning, Reinforcement Learning
- Recipient, **IEEE Computer Society Career Catalyst Scholarship**, 2025

Mar Athanasius College of Engineering — Kerala, India
Bachelor of Technology in Computer Science and Engineering (CGPA: 8.45/10.0) — *Aug 2016 - 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)**

WORK EXPERIENCE

Center for Advancing Teaching and Learning Through Research (CATLR) — Boston, MA
AI Instruction Assistant — *Jan 2025 - Current (Part-time)*
- Led **cross-college research initiatives** on the use of generative AI in education, collaborating with faculty from Social Sciences, Law, and Science to explore socially responsible AI integration in pedagogy.
- Developed a Python-based evaluation tool using the Anthropic API to assess the effectiveness of AI chatbots in supporting student learning, focusing on alignment, clarity, and helpfulness.

Commvault Systems — Bangalore, India
Senior Engineer — *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** of SQL backup and recovery workflows, reducing manual effort, ensuring QA compliance, and contributing to overall disaster recovery strategy.
- Owned the **Application-Aware Backups** feature—led development, handled enhancement requests, and provided customer-facing support for critical backup workflows.
- Resolved 50+ high-priority customer escalations through deep troubleshooting across **virtualization**, **databases** (MS-SQL, AWS RDS, Azure), and **Linux/Unix 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.

SurveySparrow — Kerala, India
Software Engineering Intern — *Jun-Aug 2018*
- Built a web application on **NodeJS** and **Hapi** that automated the conversion of survey data into Google Sheets, reducing manual effort by 80% and completed the project in under 2 months.

PROJECTS

- **Multi-Agent Collaboration Enhancement in Large Language Models (LLaMA 8B/70B)**
  Benchmarked and fine-tuned LLaMA 8B models for cooperative agent tasks using grid-based environments, improving reasoning and zero-shot performance.

- **PPO Variants Ablation Study for No-Limit Texas Hold'em using RLCard**
  Conducted an ablation study comparing PPO-Clip and PPO-KL variants for No-Limit Texas Hold'em using the RLCard environment.

- **Voice Separation using Recurrent Neural Networks (RNN) with 90%+ Accuracy**
  Built a deep learning model using UIS-RNNs to isolate speakers in mixed audio samples, achieving over 90% accuracy in speaker separation tasks.

- **Atari Pong DQN Agent with CNN Architecture**
  Trained a CNN-based DQN agent for Atari Pong; achieved human-level play with +18 average reward after 1M frames.

- **Fashion MNIST Classifier (PyTorch)**
  Built a CNN with ReLU, max pooling, and dropout; achieved 91.3% test accuracy across 10 clothing categories.

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, beautifulsoup4