

Omkar Joshi

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EDUCATION

North Carolina State University

PhD & Masters in Computer Science

Raleigh, NC

August 2023 – Present

- Advised by Dr. Munindar P. Singh
- Cumulative GPA: 4.0/4.0
- Relevant Coursework: Artificial Intelligence, Natural Language Processing, Social Computing and Decentralized AI, LLMs in Security, Controllable AI

COEP Tech

Bachelor of Technology in Computer Science, Minor in Financial Engineering

Pune, India

Aug. 2016 – May 2020

- Cumulative GPA: 8.65/10.0
- Undergraduate Thesis: Modelling Option Pricing using Local Volatility Model

SELECTED PUBLICATIONS [SEE WEBSITE FOR FULL LIST]

Ahoy: LLMs Enacting Multiagent Interaction Protocols [link]

EMAS 2026

Omkar Joshi, Munindar P. Singh, Amit K. Chopra

Paphos, Cyprus

- Developed an LLM-based architecture for programming-free enactment of multiagent interaction protocols
- Ahoy achieved 100% success across six evaluation tasks with no protocol violations, compared to 0% success for the Claude-4.5 baseline.

ReFeedGraph: Graph-Grounded Reusable Feedback for Debate Improvement

EMNLP 2026

Omkar Joshi, Priya Pitre*, Timon Ziegenbein, Henning Wachsmuth.*

Budapest, Hungary

- Developed ReFeedGraph, a graph-based LLM feedback system evaluated across 3 debate datasets
- Improved weaker-side speeches by up to 0.491 points and produced 59.5% winner-flip rates.

ArgAnalysis35K - A Large Scale Dataset for Argument Quality Analysis [link]

ACL 2023

Omkar Joshi, Priya Pitre*, Dr. Y.V. Haribhakta*

Toronto, Canada

- Developed ArgAnalysis35K, a 34.9K-pair parliamentary debate dataset with a relevance model and instance-level annotator-reliability scoring
- Evaluated BERT-based quality prediction, achieving 0.54 Pearson and 0.55 Spearman correlation.

EXPERIENCE

Full Stack Developer, Equities Tech

June 2020 – July 2022

Credit Suisse Services AG

Pune, India

- Designed, developed and deployed a new service to integrate Stock Borrow Agreement data into existing database architecture post new financial legislation being passed in Hong Kong in 2021.
- Migrated 200+ active, interdependent jobs to new servers using Control-M.

SELECTED PROJECTS [SEE GITHUB FOR FULL LIST]

- LLM Argumentation-based Link Prediction [Code]
Built a machine learning project that uses LLM-driven argumentation signals from social media interactions to predict future user links and improve over traditional link-prediction baselines.
- A Game Engine from Scratch [Code]
Built a custom C++ game engine with a client-server architecture (ZeroMQ) featuring replay recording, time-scaling, pause/resume, and responsive rendering, and used it to ship multiple playable titles.
- PeerCafe: A peer-to-peer delivery system [Code]
Built PeerCafe, a full-stack peer-to-peer campus food delivery platform (Next.js, FastAPI, Supabase) featuring real-time order tracking, secure OTP handoff, and role-based workflows for customers, staff, and student riders.

TECHNICAL SKILLS

Languages: Python, C/C++, , SQL (MySQL), JavaScript, HTML/CSS, R

Frameworks: Supabase, Angular, Node.js, PyTorch, Microsoft Agent Framework

Research Interests: Multiagent Systems, LLMs, Norms, Protocols, Argumentation