

# Sameer Komoravolu

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## EDUCATION

### University of Illinois Urbana-Champaign

Champaign, IL

BS/MCS in Computer Science, Grainger College of Engineering (GPA: 3.92)

Aug 2022 - May 2026

- **Computer Science Coursework:** Computer Architecture, Adv. Algorithms, OS, Data Mining, Compilers, Machine Learning, RL, GenAI, Databases, IoT, High-Frequency Trading, Networking, Distributed Systems
- **Mathematics Coursework:** Number Theory, Stats, LinAlg, AbsAlg, Real & Complex Analysis, Tensor Analysis
- **Achievements:** Ranked in top 500 table tennis players in US for age group

## EXPERIENCE

### Incoming @ Amazon

Sep 2025 – Dec 2025

Software Development Engineering Intern

Minneapolis, MN

### Grammarly

May 2025 – Aug 2025

Machine Learning Research Intern

San Francisco, CA

- Architected & implemented meta-agent (ATA) that **analyzes agentic codebases** and researches related papers to generate and evaluate **adaptive test dialogues in parallel**, enhancing AI safety while saving engineering hours
- Synthesized 15 papers into design spec, following **ReAct** paradigm to scale tests after observations & **CoT**
- Compared team of 10's annotations to ATA evaluation of 2 custom agents, championing ATA's technical analysis
- First authored paper, submitting to **ArXiv** and **NLP conferences**, open sourcing repo for external use

### Chamberlain Group

Summer 2023, Summer 2024

Software Engineering Intern

Oak Brook, IL

- Created dynamic method-dependency application to parse and traverse abstract syntax tree, using graph algorithms and Azure pipelines to automate **Swagger** API documentation, saving **8 hours per repository**
- Migrated production-ready code for 4 projects into the **.NET 6.0** ecosystem and cut runtime by 65%
- Practiced **dependency injection and CI/CD** with site reliability team to ensure **C#** codebase stays current
- Worked with **Azure DevOps** and **CosmosDB** to filter and migrate 20,000 user entries in under 8 seconds

### Fermilab

Aug 2020 – Jun 2022

Student Researcher

Batavia, IL

- Filtered lepton events with a 98.2% efficiency with a **DNN** using **TMVA** framework to search for the dark photon
- Processed over 26,000 **PYTHIA**-generated particle interactions with **Docker** and virtual machine compute
- Made 3 **C++** CMS software packages from scratch to store and analyze data in file systems in a **WSL** domain
- Reported results of 2 experiments in arXiv publications and presented for 30 minutes at IMSAloquium

## PROJECTS

### AlphaZero From Scratch | *Git, C++, Linux*

- Wrote **C++** neural net framework without any libraries, deriving math for **SGD, Backpropagation, & MCTS**
- Developed and trained **polymorphic** dense & convolutional layers in parallel, running on **4 cores and 8 threads**
- Used framework to train a **DNN** on database of banknotes to cluster finance characteristics with 97.3% accuracy
- Followed AlphaZero paper to combine MCTS & computer vision, producing RL-based Connect4 agent

### Self-Driving Pi | *Python, OpenCV, TensorFlow, KiCad, IoT, Raspberry Pi, GitLab*

- Built self-driving car using **IoT** telemetry and system design with ability to navigate complex ecosystems
- Optimized **OpenCV** code to classify signs with 91% accuracy and doubled throughput, enabling quick responses
- Implemented **SLAM** mapping with ultrasonic and A\* search to navigate dynamic layouts with latency under 0.8s
- Utilized **Git** and **SSH/SFTP** protocols to develop software solutions and solve problems across team of 4

## TECHNICAL SKILLS

**Programming Languages:** Python, Java, C, C++, Assembly, Verilog, C#, SQL, HTML / CSS, JavaScript, OCaml  
**Frameworks:** React, Node, Azure, AWS, GCP, Bootstrap, Scrum/Agile, Flask, PyTorch, TensorFlow, NumPy/Pandas  
**Developer Tools:** Git, Docker, Visual Studio, Linux, Jira, Kubernetes, DevOps, xUnit, VMWare, Postman, CI/CD  
**Databases:** MongoDB, Neo4J, MySQL, Postgres, CosmosDB, Redis