

# Aakriti Kedia

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## Education

### University of California, San Diego

September 2022 - June 2024

Master of Science, Computer Science

CGPA 4.0/4.0

*Systems coursework:* Compiler construction, Communication networks, Graduate network systems, Algorithms

*AI coursework:* Search & Optimization, Probabilistic Reasoning, Recommender system, Web mining, Biomedical NLP

*Soft skills:* Soft Skills for CSE careers, Communication, Leadership

### Birla Institute of Technology, Mesra, Ranchi, India

July 2016 - July 2020

Bachelor of Engineering, Information Technology

CGPA 9.2/10

- Gold Medalist; Courses: *Data communications, Computer networks and security, Data structures, Algorithms, Java, Databases, OS, Software Engineering, Information and Coding theory, Theory of Computation, Computer Organization and Architecture* (A or A+ in all CSE subjects)
- Smart India Hackathon, 2019 - Water level prediction of wells and tubewells in India based on Problem statement shared by MHRD (Ministry of Human Resources Development)
- Technical member at IEEE, Student's Chapter; Conducted programming workshops (C++, Java, Python) and problem-solving sessions for ~50 college freshmen, ~90% of the students enrolled for future workshops
- Executive member at National Service Scheme; Taught Maths and Science to ~5 junior school village children regularly for ~1 year. Promoted to head of Education initiative within a year for impactful work

## Professional Experience

### Software Engineering Intern, Salesforce, San Francisco, USA

June 2023 - September 2023

**Network Security** (*Golang, Terraform, Web Application Firewall, DDoS, AWS lambda*)

- Developing Layer 7 DDoS security robustness on IP and URL level

### Software Engineer 2, Walmart Global Tech, Bangalore, India

August 2020 - August 2022

- **Item Badges** (*Java, Cassandra, Memcached, Jmeter, Stopa, Grafana, Prometheus, Splunk, Postman, CI/CD*)
  - Developed a distributed scalable framework for assigning badges ('Bestseller', 'Holiday Deal') to items
  - Optimized API response time to 10ms for ~1M requests. Project made 0.5% GMV contribution
  - Endorsed with the highest rank award for meticulous contributions during peak holiday period orders
- **Transactional Emails** (*Java, Cassandra, Memcached, Postman APIs, Tempo CMS, Kafka*)
  - Built CMS template, pipelines to push TBs of data to cache and DB, and APIs to render banners in emails
  - Rewarded Engineering Excellence Award for remarkable year-round adaptability and agility
  - Instructed engineering jargon to a 40-member PM cohort resulting in a 15% efficacy boost in conversations

### Software Engineering intern, Walmart Global Tech, Bangalore, India

- **Outlier detection system** (*C++, Python, Hive, GRPC, Protocol buffers, RocksDb, Docker, Kubernetes*) - Alpha-released a performance-sensitive platform to exhaustively display multidimensional inventory and associate rejection stats on a daily basis  
February 2020 - July 2020
- **Node.js to Python** (*Node.js, Python, Kubernetes, CI/CD, YML, Cloud, WM OneOps, Linux, Bash, Testing*) - Expedited VM use-cases migration to the Walmart Cloud saving 16+ VM costs  
January 2020 - February 2020
- **Item recommender system** (*Machine Learning, Hive, Spark, Node.js, Hadoop, Confluence*) - Rigorously analyzed terabytes of customer grocery data, uncovered 15+ insights, and implemented a word2vec ML model for personalized item recommendations. Received a full-time offer  
May 2019 - July 2019

## Projects

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### Systems

- **x86 Compiler Construction** (*Rust, Compilers*) [Github](#)  
Built a compiler with unary & binary operators, structural & reference equality, let bindings, if-else branches, looping constructs, function calls with arbitrary parameters, heap modification, and garbage collection
- **Overlay Networks for Lower Latency Routing** (*Computer networks, RIPE Atlas, IPs, Ping, Traceroute*) [Github](#)  
Analyzed the internet topology with RIPE Atlas data to identify insights about connectivity and lower ping latencies across IPs and RIPE probes. Conducted a UCSD-wide experiment to exploit overlay networks that restrict local San Diego traffic from being routed through Los Angeles
- **SurfStore** (*Distributed systems, GoLang, Protocol buffers and gRPC*)  
Developed a fault-tolerant and scalable file storage service for synchronizing files to and from the cloud. Separated metadata from immutable data blocks and implemented Consistent Hashing & RAFT
- **Wordle Bot** (*Python, Algorithms, Data structures, Heuristics*) [Github](#)  
Implemented an optimized Wordle Bot game with efficient word guessing in an average of 5 guesses using heuristics and Trie data structure

### Artificial Intelligence

- **Causal Inferencing** (*Bayesian network, Discrete variables, Causal inference*)  
Acquired comprehensive knowledge of causal relations and identification algorithms pertaining to continuous variables, and conducted rigorous experimentation to facilitate the discovery of causality in discrete variables
- **Sepsis Prediction** (*Deep Learning and Natural Language Processing*) [Report](#)  
Predicted sepsis based on relevant patient attributes and medical reports using Logistic Regression and RNN models. Reported 0.87 AUC on MIMIC IV dataset and 200D Pubmed word2vec embeddings
- **Cuisine recommender system** (*Recommender Systems and Natural Language Processing*) [Github](#)  
Recommended restaurant cuisines based on ratings, review text (sentiment analysis), GPS, and price. Strategy reported less than 11% inaccuracy on Google local reviews dataset

### Technical Skills

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- Operating Systems, Distributed systems, Databases, Computer networks, Security, Compilers
- Data Structures, Algorithms, OOP, Go, Java, Python, Rust, C++, SQL
- Artificial Intelligence, Machine Learning, Deep Learning, Data Science, Hadoop, Hive
- APIs, Flask, Splunk, Grafana, Kafka
- Linux, Git & Github, Cloud, Docker, Kubernetes