

## EMPLOYMENT

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- Senior Software Engineer** **SambaNova Systems, Palo Alto** **May 23, 2022 - Present**  
*Machine Learning Compiler Development*
- Developing an embedded DSL & compiler in C++ using [MLIR](#) for programming compute & memory units to implement ML kernels on a CGRA chip.
  - Compiler support & abstraction for h/w features & bug workarounds across different h/w generations; resource optimizations, legalization & MLIR graph transformations in compiler passes.
  - Tools:* C++ ([LLVM clang 11](#)), [LLVM's MLIR](#), [cmake](#), [ninja](#); remote development with [tmux](#), [vim](#), [ctags](#) & [clangd](#) LSP.
- Graduate Research Assistant** **Georgia Tech, Atlanta** **Aug '21 - May '22**  
Ported Facebook's QUIC implementation, [mvfst](#), to rely on the efficient kernel-bypass network stack (threading & socket) APIs provided by MIT's [Shenango](#) and achieve low tail latency & increase CPU efficiency.
- Linux Contributor, Intern** **Google Summer of Code** **May '21 - Aug '21**  
Analyze and fix race condition bugs in the Linux kernel 5.4 device drivers based on software verification static analysis tool, [Klever](#). Part of *Linux Standards Base* & *Linux Driver Verification*.
- Lead Software Engineer** **Alpaca, Tokyo, Japan** **(2 years) Jan '19 - Jan '21**  
Agile team lead of 3 engineers & Release Manager developing prod systems for delivering JP & US stock predictions to hedge funds, asset management firms through back-end batch systems & web-apps.
- Data Scientist** **Anheuser-Busch InBev, Bangalore** **(1.5 years) Jun '17 - Dec '18**  
Developed pricing conjoint modelling pipelines for revenue mgmt across business units with UI dashboards.
- Awarded *Innovation Impact Award* among 200 new hires for developing brand/SKU optimization techniques, aggregating regional conjoint studies; lead 4 data scientists. *Tools:* [R](#), [RShiny](#), [Python](#), [Jupyter](#).

## EDUCATION

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- Atlanta, GA** **Georgia Institute of Technology** **Jan '20 - May '22**  
**Master of Science in Computer Science** with *Systems Specialization*, May 2022. **GPA: 4.0**
- Courses:* Operating Systems; Computer Architecture; Compilers; Networks; Distributed Systems; Databases; HPC; Algorithms.
- Kolkata, IN** **Indian Statistical Institute** **Jul '15 - Jun '17**  
**Master of Science in Quantitative Economics**; full scholarship & monthly stipends
- Relevant Courses:* Optimization; Game Theory; ACM-ICPC regional qualifier.
- Chennai, IN** **Chennai Mathematical Institute** **Aug '12 - Apr '15**  
**Bachelor of Science in Mathematics and Computer Science**, [Innovation in Science Pursuit Scholar](#)
- Courses:* Algorithms; Programming Languages; Discrete Math; Theory of Computation; Logic.

## PROJECTS

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- [Xen's Credit Scheduler](#) Credit scheduler C implementation in a user-level threads library.
  - [TinyFile](#) Shared memory-based file compression service with client library in C.
  - [Distributed KVS](#) Distributed key-value store using XML-RPC with partitioning, replication & consistency.

## LANGUAGES AND TECHNOLOGIES

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- About 10k lines:** C++, Python, C, Java; **About 500 lines:** JS, HTML, CSS
  - Linux, git, tmux, vim, ctags, LSPs (clangd), docker, k8s, AWS, Auth0, CircleCI, DataDog, ArgoCD