Ashwin Sekar

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github.com/AshwinSekar

Education

2014 — 2018 **Bachelors in Computer Science**
Minors in Robotics and Engineering Studies
Carnegie Mellon University

Work Experience

Aug 2018

Software Engineer
Two Sigma

- Developed features for the low latency execution trading system for the agency and wholesale market making trading desks.
- Productionalized trading tactics and set up the execution trading system for the principal eligble algorithm trading desk.
- Developed a priority based order splitting model.
- Productionalized a tensorflow model for order classification.
- Created and productionalized a new trading tactic for laddering orders to capture favorable market momentum.
- Developed a simulator optimized for the principal eligble trading tactics, to measure expected historical performance of new tactics.
- Optimized system startup and critical path to allow automated integration testing.

May 2017 — Aug 2017

Software Engineering Intern
Two Sigma

- Deployed a multi class SVM to classify client orders across various execution algorithms with the help of historical simulated tactic performance.

May 2016 — Aug 2016

Software Engineering Intern
Google

- Created a data pipeline for an internal ads email service to disseminate key metrics to advertisers.

Aug 2015 — May 2018

Teaching Assistant
Carnegie Mellon University

May 2015 — Aug 2015

Software Engineering Intern
Financial Industry Regulatory Authority

Personal Projects

Flow on the Go

http://rzhao.io/FlowOnTheGo

Dense optical flow computation optimized for mobile GPUs

- Implemented and parallelized a dense inverse search based algorithm based on the Inverse Lucas Kanade approach.
- Achieved 25fps on a mobile gpu, and 50fps on a desktop gpu for 4K resolution

C0 Compiler

Compiler for subset of C language written in Haskell

- Performed full lexing, parsing, AST, intermediate representations, SSA translation, and assembly translation.
- Implemented multiple optimization techniques including constant propagation and folding, strength reduction, dead code removal, function inlining, loop unrolling, loop hoisting, and SIMD optimization.

March Madness 2015 bracket solver

- Implemented a boosted decision tree, support vector machine and Google's pagerank algorithm in R and Microsoft Azure ML to predict the 2015 march madness bracket.
- Successfully predicted the final four.

Advent of Code

https://github.com/AshwinSekar/AdventOfCode/

Solving a selection of daily code challenges in Haskell

Technical Skills

Proficient in	Java, C, SML, Haskell, LaTeX, Linux Git, Groovy
Familiar with	Rust, C++, Python, Scala, x64 Assembly

Awards

2012 **DoD Digital Forensics Challenge (Dc3)**
International high school team winner 2012
2014–2018 **Dean's list**