Aditya Srinivasan

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https://adisrini.com

Education

Stanford University — Palo Alto, PA
M.S. in Computer Science, Systems — *2020 – Present*

- GPA: 4.30/4.00

Duke University — Durham, NC
B.S.E. in Electrical/Computer Engineering and Computer Science — *2014 – 2018*

- Summa Cum Laude. GPA: 3.95/4.00
- Thesis: *Gemini: Designing and Implementing a Functional Hardware Description Language*
- Certificate in Innovation & Entrepreneurship

Awards

Charles Ernest Seager Memorial Award — Duke University
Most outstanding undergraduate research project and presentation — *May 2018*

Graduation with Departmental Distinction — Duke University
Senior thesis with significant Electrical/Computer Engineering accomplishment — *May 2018*

Dean's List with Distinction — Duke University
GPA in the top 10% of the engineering class; earned every semester from S'15 to S'18 — *2015 – 2018*

CGIU Recognition Award — Clinton Global Initiative
Awarded to ViFlex, a startup aiming to provide affordable eye-care in developing countries — *Apr 2016*

Research Experience

Hilton Lab (Compilers) — Duke University
Advisor: Andrew D. Hilton — *2017 – 2018*

- Designed a functional programming language, named Gemini, as a high-level alternative to common hardware description languages such as Verilog and VHDL
- Incorporated constructs from powerful languages in order to improve expressivity, such as parametric polymorphism, higher-order functions, recursive datatypes, and type inference
- Introduced and implemented novel type-theoretical concepts, such as devising a type system with multiple atomic kinds and value-parameterized types
- Implemented an optimizing compiler to produce Verilog from Gemini programs

Duke Database Research Group (Computational Journalism) — Duke University
Advisor: Jun Yang — *2017 – 2018*

- Contributed towards FactWatcher, a system co-developed with Google and UTA to automatically detect, produce, and rank news-worthy facts from raw data
- Implemented algorithms to identify "prominent streak" facts from Men's basketball data, and designed heuristics to rank and diversify facts presented in a list to users

Intelligent Motion Laboratory (Artificial Intelligence) — Duke University
Advisor: Kris Hauser — *Spring 2017*

- Explored methods for improving the explainability of artificial intelligence models in order to enhance transparency, interpretability, and trust
- Implemented a web-based 3D visualization tool in Python to portray the reliability of predictions made by linear models in high-dimensional feature spaces

Teaching Experience

Head Teaching Assistant — Duke University
ECE553 (Compiler Construction) — *Spring 2018*

- Developed a framework to automate the testing and evaluation of submitted compilers
- Delivered lectures on topics such as dataflow optimization and abstract syntax trees to over **25** undergraduate and graduate students
- Assisted the professor in grading midterms and final exams

Teaching Assistant — Duke University
Multiple Courses — *2016 – 2018*

- Courses taught: Operating Systems, Computer Architecture, Digital Systems, Discrete Math, Artificial Intelligence, Software Design and Implementation, Fundamentals of ECE, Signals and Systems, Electromagnetic Fields
- Held weekly office hours to explain concepts in coursework to over **300** students
- Led weekly lab sections to guide students in applying course theory in practice
- Assisted the course professors in grading assignments, midterms, and final exams

Peer Tutor — Duke University
Multiple Courses — *2015 – 2016*

- Tutored students in Data Structures and Algorithms, and Computational Methods in Engineering through weekly one-on-one sessions

Work Experience

Jane Street Capital — New York, NY
Software Developer — *Sep 2019 – Present*

Palantir Technologies — New York, NY
Forward Deployed Software Engineer — *Aug 2018 – Sep 2019*

- Worked on the Airbus Skywise project to develop applications for airlines to improve operations in multiple domains including maintenance planning, fuel consumption, and reliability
- Built a patent-pending application for aircraft maintenance planning to optimize, visualize, and validate schedules that decreased planning time by **95%** across **3** airlines
- Implemented algorithms to automatically parse and categorize unstructured free-text data in order to visualize defects in aircraft cabins across over **30** airlines

Palantir Technologies — New York, NY
Software Engineer Intern — *Summer 2017*

- Worked on a spreadsheet application designed to efficiently search datasets across the core analytics platform, build interactive dashboards, and support manual data entry
- Formalized and implemented a type-checking system for spreadsheet functions
- Reduced algorithmic runtime complexity of grid-based spreadsheet operations from quadratic- to linear-time

Cinchapi — Atlanta, GA
Software Engineer Intern — *Summer 2016*

- Contributed to Concourse, an open-source, NoSQL database for real-time analytics
- Developed a recommendation engine for the database to suggest visualizations to users based on properties of their data with **91.2%** accuracy
- Implemented enrichment algorithms to derive and extrapolate additional information from existing data

Volunteer Experience

Code Nation New York, NY
Mentor *Aug 2019 – Present*

- Supporting teachers in Richard R. Green Teaching High School by mentoring students and providing yearlong technical support on web development projects

Plugged In Mumbai, India
Co-Founder *2011 – 2015*

- Co-founded a community service initiative to make technology accessible to underprivileged students at municipal schools across Mumbai
- Delivered weekly lessons in digital literacy to over **60** students across **3** grades
- Led expansion from **3** to over **30** members with branches in Delhi, Kalemi, and Jakarta

Preprints

1. **Aditya Srinivasan** and Andrew D. Hilton. Gemini: A Functional Programming Language for Hardware Description. 2019

Pending Patents

1. **Aditya Srinivasan** and Tim Overeem. Valkyrie: graph-based validation engine. Filed September 2018
2. **Aditya Srinivasan** and Anshuman Prasad. SkyLine: aircraft maintenance planning optimization, visualization, and validation. Filed August 2019.

Memberships

Honor Societies: Tau Beta Pi (since 2016), Eta Kappa Nu (since 2017)
Organizations: IEEE (since 2016), ACM (since 2016)