Aditya Srinivasan https://adisrini.com
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Education

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 HDL*. Advised by Andrew D. Hilton
- Certificate in Innovation & Entrepreneurship

Honors and 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 safe and expressive alternative to common hardware description languages
- Incorporated powerful constructs from modern languages such as parametric polymorphism, higher-order functions, and recursive datatypes
- Implemented a compiler from Gemini to Verilog demonstrating novel type-theoretical concepts, such as combining multiple kinds with multi-staged compilation to ensure type-inferability with dependent types

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 Duke Men's basketball data
- Implemented detection algorithms and 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 compiler submissions from students
- Lectured on topics such as dataflow optimization and ASTs to over **25** undergraduate and graduate students

Teaching Assistant Duke University
Multiple Courses *2016 – 2018*

- Courses: Operating Systems, Computer Architecture, Digital Systems, Discrete Math, Artificial Intelligence, Software Design and Implementation, Fundamentals of ECE, Signals and Systems, Electromagnetic Fields, Ethical and Legal Issues of Data Analysis
- Held weekly office hours and lab sections for over **300** students across **3** schools

Professional Experience

Jane Street New York, NY
Software Engineer *Sep 2019 – Present*

- Developing services to quantify types of financial risk and establish limits in order to increase trading safety

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

- Developed applications on the Airbus Skywise platform to help airlines 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 which decreased planning time by **95%** across **3** airlines

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

- Formalized and implemented a type-checking system for a spreadsheet application on the Foundry platform
- Reduced runtime complexity of spreadsheet operations on sparse grids 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 system for data visualizations performing with **91.2%** accuracy

Service Experience

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

- Mentoring students at the Richard R. Green High School and providing technical support on class projects

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

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

Preprints and Pending Patents

1. **Srinivasan, A.** and Hilton, A. "Gemini: A Functional Programming Language for Hardware Description", https://arxiv.org/pdf/1911.03926.pdf [cs.PL], November 2019.
2. **Srinivasan, A.** and Overeem, T. "Valkyrie: a graph-based validation engine". Filed September 2018.
3. **Srinivasan, A.** and Prasad, A. "SkyLine: aircraft maintenance planning optimization, visualization, and validation". Filed August 2019.

Activities and Societies

Activities: Jane Street Puzzle Master, American India Foundation Member Council
Societies: Tau Beta Pi, Eta Kappa Nu, IEEE, ACM