Samuel Grayson

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Technical Skills

Languages (experienced)	Python, Java, C/C++, Javascript, Lisp, SQL
Languages (competent)	Rust, C#, Haskell, Ruby, Scala, Go
Other	Hadoop, Apache Spark, Keras, POSIX Shell, Kubernetes, Docker
Completed courses	AI, Machine Learning, Natural Language Processing, Advanced Algorithms, Data Structures, Quantum Mechanics, Quantum Computing

Education

Aug 2019–May 2025	**Ph.D. in Computer Science**, *University of Illinois at Urbana-Champaign.*
Aug 2015–May 2019	**B.S. in Computer Science with minor in Physics**, *University of Texas at Dallas*, (major: 3.7).

Employment

Research Fellow, *University of Illinois at Urbana-Champaign.* — May 2019–Aug 2019
- Implementing a cache coherence protocol in an architectural simulator.

Software Engineering Intern, *Facebook.* — May 2019–Aug 2019
- Designed and implemented an internal tool (reaching hundreds of users) that improved the machine learning process for ads.
- Reference: Xiaoyu Chen xochen@fb.com ("Exceeded expectations")

REU Student, *Illinois Institute of Technology.* — May 2018–Aug 2018
- Designed a prototype database in a unikernel-inspired hybrid runtime for high-performance computing
- Achieved 1.2x speedup relative to Linux, in certain cases
- Project source code
- Reference: Kyle Hale khale@cs.iit.edu

Software/Machine Learning Intern, *Snowfall Technologies.* — May 2017–May 2018
- Designed, implemented, and tested hybrid content- and collaborative-filter for product recommendations with 60% precision
- Created and maintained the CI/CD pipeline, deploying to a Kubernetes cluster on AWS
- Reference: Stephen Fox Stephen.Fox@hpe.com ("Rockstar intern")

Aug 2016–May 2017	**Computer Science Mentor**, *UT Dallas Computer Science Mentor Center*.
	○ Tutored the fundamentals of C, C++, Java, Unix and discrete mathematics
	○ Wrote my own publicly available curriculum
	○ Reference: Vanessa Dixon Vanessa.Dixon@utdallas.edu
May 2016–Aug 2016	**Software Engineering Intern**, *The Home Depot*.
	○ Developed and implemented an algorithm for finding a user's location in a store based on the WiFi signal-strength
	○ Project presentation
	○ Reference: Stacy Devino
June 2015–Aug 2015	**Software Engineering Intern**, *Silicon Labs*.
	○ Ported and debugged example C code for microcontrollers
	○ Used lab equipment (multimiters, oscilloscopes, soldering irons, etc.) to test development boards
	○ Reference: Stephen To Stephen.To@silabs.com
Jun 2014–Aug 2014	**Lab assistant**, *at University of Texas*.
	○ Created proof of concept for locating an object with radars and reconstructing its trajectory
	○ Designed a system for remotely collecting radar data reducing collection time by 75% (using C, Raspberry Pi SOCs, and Python)
	○ Reference: Hao Ling

Publications

Jun 2018	Joseph Vade Burnett, Sam Grayson, Zachary Sullivan, Richard Van Natta, and Luke Bang, **"Arithmetical Functions Associated with the k-ary Divisors of an Integer,"** *IJMMS*. https://doi.org/10.1155/2018/9349245.

Posters and talks

Nov 2018	Sam Grayson, **"NautDB: Towards a Hybrid Runtime for Processing Compiled Queries,"** Poster. *SC'18* Link
Feb 2017	Sam Grayson, **"Creative Thinking in Math Class"** Talk. *TEDxUTD*. https://www.youtube.com/watch?v=IQqb8HfN5hw

Awards and Honors

Sep 2019	ARCS Fellowship
Jun 2019	College of Engineering Fellowship at University of Illinois at Urbana-Champaign
Jun 2019	SURGE Fellowship at University of Illinois at Urbana-Champaign
May 2019	Graduated Cum Laude from UT Dallas
Aug 2015	Academic Excellence Scholarship (full-tuition scholarship) at UT Dallas
Dec 2014	Eagle Scout (Troop 3, Austin TX)

Contributions to Open Source Projects

○ Dask [contribution]
○ Gem5 [contribution]