

Samuel Grayson

Computer Science PhD Student

☎ (512) 354 6602

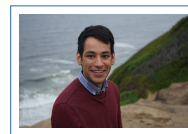
✉ sam@samgrayson.me

📄 samgrayson.me

🌐 [samgrayson](https://www.linkedin.com/in/samgrayson)

🎧 [charmoniumQ](#)

👤 1078199



Objective

I am pursuing an internship in compilers, systems, and architecture for the Summer or Fall of 2021. Below, my CV shows that I can combine CS theory with practical software engineering to solve real-world problems.

Education

- Aug 2015–May 2019 **B.S. Computer Science, Physics Minor**, *University of Texas at Dallas*, (3.77).
Aug 2019–May 2026 **Ph.D. Computer Science**, *University of Illinois at Urbana Champaign*, 3.71.

Research Projects

- Jan 2020–Present **[ILLIXR: Illinois eXtended Reality Testbed](#)**, *PI: Sarita Adve*.
A runtime for augmented and virtual reality headsets.
- Jan 2020–Present **[HPVM Spandex Compiler](#)**, *PI: Sarita Adve*.
An LLVM compiler pass to emit specialized cache-coherence messages.
- Sep 2019–Dec 2019 **[Implementing Truly Parallel Threads in CPython](#)**.
Implementation of parallel threads in CPython (unlike prior work, avoiding the GIL), beating traditional multiprocessing by 3x, while maintaining multi-threaded memory-safety.
- May 2018–Aug 2018 **[Naut DB](#)**, *PI: Kyle Hale*.
A database unikernel for high-performance computing, 1.2x speedup over Linux.
- Aug 2018–May 2019 **[Computational Analysis of Self-Reported Business Risk Factors](#)**.
Large-scale (hundreds of GB) text-mining pipeline on a distributed cluster.

Publications, Posters, and Talks

- Nov 2018 Sam Grayson. **[“NautDB: Towards a Hybrid Runtime for Processing Compiled Queries.”](#)**
Poster at *SC '18*.
- 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.”](#)**
At *IJMMs*. DOI: 10.1155/2018/9349245.
- Feb 2017 Sam Grayson. **[“Creative Thinking in Math Class.”](#)** Talk at *TEDxUTD '17*.

Awards and Honors

- Aug 2019 ARCS Graduate Fellowship
Aug 2019 Graduate College of Engineering Fellowship
Aug 2016 Computer Science Honors student at UT Dallas
Aug 2015 Collegium V Honors student at UT Dallas
Aug 2015 Academic Excellence Scholarship (full-tuition scholarship) at UT Dallas
Dec 2014 Eagle Scout

Employment

- May 2019–Aug 2019 **Software Engineering Intern**, *Facebook*, Reference: Xiaoyu Chen.
Worked on an internal tool for machine learning engineers, used by multiple teams.
- May 2019–Aug 2019 **REU Student**, *Illinois Institute of Technology*, Reference: Kyle Hale.
See NautDB project.
- May 2017–May 2018 **Machine Learning Intern**, *Snowfall Technologies*, Reference: Stephen Fox.
Designed ML product-suggestion algorithm, and managed REST microservices in Kubernetes.
- Aug 2016–May 2017 **Computer Science Mentor**, *UT Dallas*, Reference: Vanessa Dixon.
Taught C, C++, Java, Unix, computer architecture, and discrete math in individual and group settings. Wrote my own [open-source curriculum](#)
- May 2016–Aug 2016 **Software Engineering Intern**, *The Home Depot*, Reference: Stacy Devino.
Developed and implemented an algorithm for finding a user's location in a store based on the WiFi signal-strength ([project presentation](#))
- June 2015–Aug 2015 **Software Engineering Intern**, *Silicon Labs*, Reference: Stephen To.
Used lab equipment (multimeters, oscilloscopes, soldering irons, etc.) to test boards
- Jun 2014–Aug 2014 **Lab assistant**, *University of Texas*, Reference: Hao Ling.
Created proof of concept for [localizing](#) and [tracking](#) with radar. Designed a system for remotely collecting radar data reducing collection time by 75%.

Open Source Contributions

I believe in giving back to the open-source community. Aside from open-sourcing all of my own research projects, I have contributed to these projects owned by others:

- [ILLIXR](#)
- [gem5](#)
- [Dask Distributed](#)
- [Dask](#)
- [OpenVINS](#)
- [IMDbPY](#)
- [SuperMalloc](#)