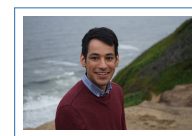


Samuel Grayson

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Objective

I am pursuing an internship programming languages, verification, or software engineering for the Summer 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, major: 3.72).

Aug 2019–Present **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*.

Wrote a runtime for AR/VR system.

Jan 2020–Present **[HPVM Spandex Compiler](#)**, *PI: Sarita Adve*.

Wrote an LLVM compiler pass to emit specialized cache-coherence messages.

Sep 2019–Dec 2019 **[Implementing Truly Parallel Threads in CPython](#)**.

Implemented 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*.

Designed a database in a unikernel for high-performance computing, 1.2x speedup over Linux.

Aug 2018–May 2019 **[Computational Analysis of Self-Reported Business Risk Factors](#)**.

Implemented 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 (Troop 3, Austin TX)

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 deployed as a RESTful microservice 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 development 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](#)