

Aidan Lakshman, PhD

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Work Experience

Google , Software Engineer (Systems/Infrastructure)	New York, NY
<ul style="list-style-type: none"> Building infrastructure for Google Colossus Optimizing data placement to make data access/storage more efficient 	Sept 2025 – present
University of Pittsburgh , Graduate Researcher	Pittsburgh, PA
<ul style="list-style-type: none"> Built a clustering algorithm in C to process graphs with >1B nodes using < 64GB RAM Designed novel algorithms in R to predict gene function from evolutionary signal Led preliminary research for successfully funded U01 grant 	Aug 2020 – Aug 2025
Amazon Web Services , Software Development Engineer Intern	Herndon, VA
<ul style="list-style-type: none"> Streamlined AWS account onboarding experience for Research Service Workbench on AWS (SWB) from an error-prone, multi-context process to a one-click workflow Led implementation of SWB's first comprehensive unit testing framework Designed frontend components with React, backend with Node.js and AWS Lambda 	Summer 2020 & 2021
Carnegie Mellon University , Robotics Institute Summer Scholar	Pittsburgh, PA
<ul style="list-style-type: none"> Improved traffic signals by predicting bus behavior with Bayesian modeling in Python Built assistive technology to allow intersections to aid mobility-impaired pedestrians 	Summer 2018

Education

PhD University of Pittsburgh , Bioinformatics	Pittsburgh, PA
Research: Designing scalable algorithms to analyze massive genomic datasets	2025
BS University of Central Florida , Mathematics	Orlando, FL
<i>magna cum laude</i> , Burnett Honors College, National Merit Scholar	2020

Projects

- 6502 Computer:** Built a 6502 computer on a breadboard, created a 6502 emulator in C to run and debug programs in Assembly, wrote a Forth OS from scratch in 6502 Assembly
- Cloud Storage Server:** Built a cloud storage server using Nextcloud on top of a LAMP stack

Grant Funding

R Consortium , <i>Infrastructure Steering Committee</i>	2024
Funded to become primary maintainer of Biostrings, an open source R package with >1M downloads per year	
University of Central Florida , <i>Burnett Honors College</i>	2018
Funded to research novel approaches to incentivize exploration in evolutionary multi-agent systems	

Publications

- Lakshman, A.** and E.S. Wright. "EvoWeaver: Large-scale prediction of gene functional associations from coevolutionary signals". *Nature Communications*, **16**, 3878 (2025). <https://doi.org/10.1038/s41467-025-59175-6> 📄
- Lakshman, A.** and E.S. Wright. "ExoLabel: Scalable network clustering for massive datasets" (**In Preparation**).

Skills

- Programming (5+ years):** R, C, Fortran 90, Python
- Programming (2+ years):** C++, C#, Forth, Assembly