SAMUEL TAY

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education

M.S., Computer Science 2020 - 2023
University of Washington Seattle, WA

Courses: Computer Security, Applied Cryptography, Formal Verification, Network Systems, etc.

GPA: 3.99

B.A., Mathematics & Scientific Computing 2009 - 2013
Kenyon College Gambier, OH

Thesis: *Logic via Algebra.* Awarded distinction.

GPA: 3.91

Class Rank: 16/409

work experience

Senior Software Engineer Oct 2022 - Present
Sunscreen Remote

Maintained our open source FHE compiler and wrote user documentation, tutorials, and integrations.

Languages: Rust.

Senior Software Engineer Apr 2022 - Oct 2022
Phylum Remote

Developed APIs internal and external parties to interact with our supply chain security package scoring data.

Maintained an interface between the OLAP and OLTP areas of our product.

Languages: Rust, SQL.

Technologies: AWS, Docker, Kubernetes, Postgres, Redis, HBase, Spark.

Software Engineer III Dec 2018 - Sep 2019, Jun 2020 - Apr 2022
SimSpace Corporation Remote

Developed APIs for various services that comprise a realistic network simulation product for cybersecurity training.

Regularly solved performance problems by analyzing and improving Postgres query plans.

Languages: Haskell, SQL.

Technologies: Docker, Kubernetes, Minio, PostgreSQL.

Teaching Assistant Sep 2019 - Jun 2020
University of Washington Seattle, WA

Wrote lesson plans and led recitation classes for undergraduate probability and statistics courses.

Took graduate classes such as Statistical Inference, Network Optimization, Graphical Models, and Machine Learning.

Languages: Coq, Python, R.

Full Stack Engineer Aug 2017 - Nov 2018
Wrinkl Inc. Remote

Developed a websocket-driven chat application, supporting web, iOS, and Android apps.

Used the Reflex FRP library to develop highly dynamic user interfaces with declarative strongly-typed code.

Languages: Haskell, Nix, SQL.

Technologies: Hydra, NixOS, PostgreSQL, Reflex-Platform.

Software Developer Apr 2017 - Aug 2017
ExpandShare Charleston, SC

Built core features and microservices for a Learning Manage System within Django.

Languages: Python, Javascript.

Technologies: Angular, Django.

Backend Web Developer May 2014 - Feb 2017
Blue Acorn Charleston, SC

Developed reusable modules in an object oriented MVC eCommerce framework.

Founded an educational Functional Programming group with weekly meetups.

Led an agile team and mentored junior developers.

Languages: PHP, Javascript, Bash.

Technologies: Magento, MySQL, RabbitMQ.

research experience

Research Assistant — Summer 2011
AstroParticule et Cosmologie — Paris, France

Conducted research investigating the correlation of temperature variation and phase noise for LOT (LISA On Table), an optical simulator for the LISA mission, under Dr. Hubert Halloin.

Research Assistant — Summer 2010
Valparaiso University — Valparaiso, IN

Explored pattern avoidance in ternary trees in a team of three undergraduate students under mentor Dr. Lara Pudwell.

technical skills

Programming Languages

Fluent in Rust, Haskell, Python, PHP, Javascript.

Experience with Bash, C, C++, R.

Mathematical Software

R, Maple, Mathematica, Matlab.

Other Technologies

Kubernetes, Docker, Ansible, RabbitMQ, Redis, Postgres, MySQL.

honors & awards

Phi Beta Kappa Society

Pi Mu Epsilon National Mathematics Honor Society

Newman's Own Foundation Scholarship — 2009-2013

Zakov Family Scholarship — 2011-2013

John H. Dunlap IV Scholarship — 2012-2013

Funding for deserving mathematics majors who have demonstrated excellence in the programming and/or use of computer applications.

Reginald B. Allen Prize — 2013

Annual award to a student who the professors of the Department of Mathematics decide has done the most outstanding work in mathematics.

Reginald and Bessie Allen Memorial Fund — 2011-2012

The income assists a student having exceptional promise in mathematics who is recommended by the chair of the Department of Mathematics.

Wendell D. Lindstrom Memorial Prize — 2011

Award for extraordinary work by first or second year students in mathematics.

MAA Outstanding Presentation Prize, Joint Mathematics Meeting — 2011

publications

Nathan Gabriel, Katherine Peske, Lara Pudwell, and Samuel Tay. 2012. "Pattern Avoidance in Ternary Trees." *Journal of Integer Sequences* 15:12.1.5.