Pi Songkuntham

CONTACT
INFORMATION

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EDUCATION

Princeton University, NJ, United States

Ph.D. Candidate in Computer Science, 2019 - ongoing

Wesleyan University, CT, United States

B.A. Computer Science, 2015 - 2019, *Phi Beta Kappa*

PUBLICATIONS

MultiFlow: Cross-Connection Decoy Routing using TLS 1.3 Session Resumption
Victoria Manfredi, **Pi Songkuntham**
In Proc. of *8th USENIX Workshop on Free and Open Communications on the Internet (FOCI)*, 2018, 8 pages

EMPLOYMENT

Google
Part-Time Student Researcher   August 2020 - Present
(Google Brain) Will continue working on the distributed runtime of TensorFlow.

Google
Software Engineering Intern (Ph.D.)   May - August 2020
(Google Brain) Worked on design and implementation of collective operations (e.g. allreduce, broadcast, allpermute) for distributed TFRT (the new TensorFlow runtime) and TensorFlow2.

Google
Software Engineering Intern (Ph.D.)   July - September 2019
(Dart language infrastructure team) Launched a Chrome extension enabling remote debugging for Dart applications. Improved Dart debug workflow for Google Ads, Google Assistant, and Flutter engineers both inside and outside of Google. All contributions are public on the Dart GitHub repository.

Google
Software Engineering Intern   June - August 2018
(Google Ads product team) Launched the full stack of quick response feature for internal Gmail using Dart, Angular, and Java.

ACADEMIC
EXPERIENCE

Department of Computer Science, Princeton University
Teaching Assistant   September 2020 - Present
Teaching precepts, holding office hours, and grading for Introduction to Programming Systems.

Department of Computer Science, Wesleyan University
Research Assistant   May 2017 - June 2018
Designed protocols for anti-censorship on the Internet that can authenticate across multiple user connections. Tested the design feasibility in TLS 1.3 in UNIX/Linux environment using OpenSSL.

Department of Computer Science, Wesleyan University

Research Assistant · May 2016 - July 2016

Studied lambda calculus and cost analysis of program source code.

Department of Computer Science, Wesleyan University

Course Assistant

Graded homework, held weekly office hours and lab involving debugging others' code, explaining complex concepts in the following courses.

- Functional Programming, Daniel Licata (Spring 2017)
- Algorithms and Complexity, Daniel Licata (Fall 2018)
- Information Security, Sebastian Zimmeck (Fall 2018)
- Programming Language Implementation, Norman Danner (Spring 2019)

AWARDS

Michael Rice Prize

Awarded for excellence in computer science to a senior · 2019

Freeman Scholarship

Merit-based full-tuition scholarship to attend Wesleyan · 2015-2019

PROJECTS

Egalitarian Paxos in Pure Rust

Implemented Egalitarian Paxos in Rust, evaluated on AWS EC2. See Implementation and evaluation.

Distributed Hash Table

A Python implementation of distributed key-value datastore using a distributed hash table with a simplified version of Paxos used as the consensus algorithm.

Reliable Data Transfer

Java implementations of application-level Stop-and-Wait, Go-Back-N, Selective Repeat over UDP.

Cardinal Course [on GitHub]

Course review site for students to post ratings and share course reviews.

Word Challenge [on GitHub]

Anagram game and anagram solver in pure JavaScript.

Wasiddhi Run [on GitHub]

Endless running game using Phaser JavaScript library.

ACTIVITIES

Google GHC Scholar 2020

Scholarship awarded by Google to attend the celebration of women in computing.

Oregon Programming Languages Summer School 2019

Received a grant from OPLSS sponsors to attend a conference on programming languages at the University of Oregon.

Cornell, Maryland, Max Planck Pre-doctoral Research School Scholar 2018

Scholarship awarded by Max Planck Society to attend the summer school at MPI-SWS. Learned about emerging trends in computer science research, interacted with leading scientists and research students.

Oracle Scholar 2018

Scholarship awarded by Oracle Academy to attend OurCS, research-focused workshop in computer science at Indiana University. Worked on mobile device location estimation based on RSSI of Bluetooth beacons.

Grace Hopper Celebration Scholar 2018
Scholarship awarded by AnitaB.org to attend the celebration of women in computing.

Visiting Student at the University of Edinburgh 2017-2018
Took courses at the School of Informatics.

Wesleyan Women in Science Steering Committee
Led and participated in events that seek to promote access to resources, build supportive community for women in STEM.