Pi Songkuntham

Education

Princeton University, NJ, United States

Ph.D. Computer Science, September 2019 - ongoing

Wesleyan University, CT, United States

B.A. Computer Science, May 2019, *Phi Beta Kappa*

Academic Experience

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.
- Wrote efficient bash scripts to collect protocol data from Alexa's top 500 websites to support and narrow down design.

Department of Computer Science, Wesleyan University
Research Assistant — May - July 2016

- Studied cost analysis and λ-calculus.
- Used OCaml to develop a tool for extracting execution cost information from functional programs.

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)

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

Internships

Google
Software Engineering Intern (Ph.D.) — July - September 2019

- 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

- Launched the full stack of quick response feature for internal Gmail using Dart, Angular, and Java.
- Improved efficiency for agents of all Google products who communicate via email with Google's clients.

Awards

Michael Rice Prize
Awarded for excellence in computer science to a senior — 2019

Freeman Scholarship
Merit-based full-tuition scholarship — 2015-2019

Activities

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.

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.

Projects

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.