

# Pop Sornsak Thiravechyan

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## EDUCATION

**Purdue University** | West Lafayette, IN

Graduated: May 2019

B.S. in Computer Science

Relevant Coursework: Operating Systems, Computer Security, Intro to Cryptography, Intro to the Analysis of Algorithms, Intro to Database Systems, Information Systems, Virtual Reality Applications, Systems Programming, Computer Architecture, Data Structure and Algorithms, Problem Solving & Object-Oriented Programming

## PERSONAL PROJECTS

**Endless Maze** | HTML, CSS, JavaScript

August 2017

- Procedurally generate a playable maze using Eller's algorithm that expands in a Fibonacci sequence after each level.
- Wrote a solver using the Wall Follower algorithm and visualizes it in real-time.

**Music Visualizer** | Unreal Engine 4

May 2017

- VR enabled real-time music visualizer using particle system.

**2.5D VR Obstacle Course** | Unreal Engine 4

February 2017

- Built a VR compatible 2.5D platformer obstacle course using Blueprints.
- Viewpoint follows the character smoothly with the use of spring arm to dampen sudden position changes and reduce nausea.

**xkcd Scraper** | Bash

October 2016

- Wrote a Bash script for downloading a range of pages from the xkcd webcomic by scraping the image portions of each page.

**Word Dungeon** | Ruby

August 2016

- While teaching myself Ruby, created a text adventure game where users can spawn players, explore the dungeon, and add rooms.

## CLASS PROJECTS

**Buffer-Overflow Vulnerability** | C

October 2018

- Exploited the vulnerability of a program that has the buffer-overflow problem to gain the root privilege.

**Cross-Site Scripting Attack** | JavaScript

November 2018

- Launched an XSS attack on a modified social network web application to spread XSS worm among users.

**Operating System Project** | C

November 2018

- Implemented a heap memory management system, IPC mechanisms, and a read/write lock system.

**Database Role-Based Access Control** | Java

November 2018

- Implemented a role-based access control scheme for a database using JDBC to query the database from within a Java program.
- Built a data encryption mechanism to hide data from users with insufficient access privileges.

## SERVICE

**Purdue EPICS Service Learning Design Program** | West Lafayette, IN

May 2016

- Modified a curriculum for teaching middle school students distance estimation through experimentation with mousetrap cars.
- Improved the sturdiness of the mousetrap car by changing the axle shape from circular to square and elongating the car body.

**Sustainable Farm Volunteer** | Pai, Thailand

June 2013

- Volunteered at a traditional organic farm to practice sustainable farming principles and help grow produce.

**Thailand's ROTC** | Bangkok, Thailand

2011-2013

- Trained in the military part-time as part of the national youth reserve.

## SKILLS & INTERESTS

**Programming & Technologies:** C/C++, Java, HTML, CSS, JavaScript, Unreal Engine 4, PL/SQL, Hadoop/Spark

**Languages:** English (fluent), Thai (native)

**Interests:** Longboarding, Fantasy Web Novels, Scuba Diving (Certified), Emergency Responder (Trained)