

KAARTHIK A. ALAGAPPAN

Sanford, FL 32771 // (386)-628-1649 // kaarthik.alagappan@gmail.com // kaarthikalagappan.dev

EDUCATION

University of Central Florida

Bachelor of Computer Science,
GPA: 3.96

Orlando, FL
December 2020

Seminole State College

Associate of Arts (through dual enrollment),
GPA: 4.0

Sanford, FL
August 2017

TECHNICAL SKILLS

Languages: C, Java, Python, SQL, Bash, JavaScript, HTML, CSS, PHP

Tools and Environments: Linux, Git, MySQL, React

Certifications: Microsoft Office Specialist (2014), Microsoft Technology Associate (2014)
Adobe Photoshop (2015), Illustrator (2015), Premiere Pro (2015), Dreamweaver (2015)

WORK EXPERIENCE

University of Central Florida

May 2019 – Present

Undergraduate Research Assistant

- Modified the LLVM and Clang infrastructures and a source code transformer to support a customized, side-channel free architecture
 - Added a new LLVM-IR branch opcode that produces extra assembly code used by the side-channel free architecture, and modified Clang to emit that opcode based on the source code attributes
 - Customized a Java-based source code transformer to convert specific statements into a compatible format that doesn't induce new side-channels

PROJECTS AND EXTRACURRICULARS

EndLess Learner (ELLE) – Virtual Reality

January – December 2020

Senior Design Project

- Working with a researcher to create virtual reality games that aid students in learning new languages while collecting data from the games to analyze the impact of different types of games on the students' growth
- Serving as the project manager for a team of 5 and as a backend developer
 - Collaborated with two other ELLE groups to determine requirements and redesign the existing system to better suit the researcher's needs and to have a unified backend, and coordinated the new backend implementation
 - Currently implementing RESTful APIs in Python using Flask and maintaining MySQL databases

Engineering Leadership & Innovation Institute at UCF

November 2018 – Present

Member in the student committee

- Working with the tech team to create projects that are to be used as tools to teach children about programming
- Two games, tic-tac-toe and minesweeper, have been completed using Python, and two projects, an IoT project to control a regular 3D printer through the internet and a Python starter guide, are in progress

Knight In & Contact Manager

August – December 2019

Course Projects

- Served as the project manager and as a backend developer for both projects
- Built a contact manager website based on the LAMP stack with HTML5, CSS, JavaScript, and REST APIs
- Collaborated with a professor to create a Bluetooth based attendance app called Knight In
 - Familiarized myself with Firebase and JavaScript to host the database and create API functions, respectively

LEAD Scholars (UCF)

August 2017 – May 2019

- A two-year leadership program that helped me cultivate effective leadership practices

VOLUNTEER SERVICES

Hindu Society of Central Florida

- Creating an automated phone and text messaging system in Python using Twilio services
- Recreated and improved their website in addition to uniting all of their services under a new management system