

# TRAN HUYNH

toranhuynh@gmail.com | 832-205-6900 | <https://tranngocbaohuynh.github.io/portfolio>

## Education

---

**Arizona State University at Tempe**

Expected May 2023

**Master of Science in Robotics Autonomous System (Artificial Intelligence)**

**California State University Sacramento**

Jan 2018 - Dec 2020

**Bachelor of Science in Computer Science**

Dean's Honor Roll

- GPA: 3.911 / 4.0
- Minor in Mathematics

## Skills

---

**Programming:** C, C++, Python, Matlab, SQL, Racket, Java, HTML, CSS, Bootstrap, React

**Technologies:** Jupyter Notebook, MySQL, Bash, Microsoft Office Suite, Linux/Unix, Window

**Language:** Bilingual Vietnamese / English

## Project Experience

---

**Artificial Intelligence Pacman Agent**

Sept 2021- Nov 2021

- Implement informed state-space search to guide Pacman through the maze efficiently. Search algorithms include: Breadth First Search, Depth First Search, Uniform Cost Search, and A\* Search.
- Implement minimax and expectimax to design multi-agents environment (ghosts and pacman), and solve the adversarial, stochastic search problem.
- Implement reinforcement learning Pacman Agent. The project is implemented using Python.

**Network Intrusion Detection System Using Fully Connected and CNN**

Nov 2020

- Implement Fully Connected Neural Network model with Relu activation and Adam Optimization. Implement Convolution Neural Network model with different layers and kernels size to distinguished good (normal) and bad (instruction or attack) connections (binary classification).
- Accuracy of these models are 99.8%
- The project is implemented using Python in Jupyter Notebook.

**Optimizing the Magic Square Problem Using Genetic Algorithms with DEAP**

Nov 2020

- Apply Genetic Algorithm and DEAP library to return an  $N \times N$  size magic square giving an  $N \times N$  random array of unique number from 1 to  $N \times N$ .
- Correctly detect the  $3 \times 3$  magic square after 5<sup>th</sup> generation,  $4 \times 4$  magic square after 24<sup>th</sup> generation.
- The project is implemented using Python and DEAP library in Jupyter Notebook.

**Sec Tutor**

Oct 2019 – Dec 2020

- Design, build, and assess online learning tool for secure programming. This tool will help user learn, practice secure programming from each other and from experts.
- Develop questions bank base on the misconceptions and different computer system security topics.
- Construct intelligence tutorial system to provide tests based on user's current understanding level.

## Publication and Presentation

---

- Jericho Rivero, **Tran Ngoc Bao Huynh**, Angelica Smith-Evans, Ong Thao, and Yuan Cheng, Analyzing the Efficiency of Lightweight Symmetric Ciphers on IoT Devices, Computer Science Conference for CSU Undergraduates, 2021. (Accepted)

## Working Experience

---

**Graduate Service Assistant**      **Secure, Trusted, and Assured Microelectronics Center, ASU**      August 2021 – Present

- Research about Post Quantum Cryptography, Homomorphic Encryption, Secret Sharing, and Distributed Storage System.
- Analyze the parameters (key size, cipher text size, and security level) of the finalist Post Quantum Cryptography in order to choose the encryption scheme for storage efficiency in distributed block chain storage system.

**Research Assistant**      **Computer Science Department, Sacramento State**      Oct 2019 – Dec 2020

- Research and analyze the misconceptions that students have when they are programming.
- Generate questions to provide information and raise awareness for students of secure programming.
- Implement and design front end website for the project.

**Teacher Assistant**      **Computer Science Department, Sacramento State**      Feb 2019 – May 2020

- Assist classes of total 100 students in grading student assignments.
- Provide solutions and explanations for error in their code and assignments. Provide feedback for improvement.
- Prepare overall progress reports on students' assignments regularly to update their performance with professor.

## Activities and Accomplishments

- 
- |  |                      |
|--|----------------------|
| • ICPC Pacific Northwest Region ( <b>Participation</b> )   | March 2021, Nov 2019 |
| • Cyber Fast Track ( <b>Semi-Finalist, top 540 over 13,280</b> )   | Jul 2019             |
| • ICPC Programming contest at Sac State ( <b>Third Place</b> )   | March 2019           |
| • Sacramento State Hornet Hacks ( <b>Excellence Human Energy Award By Chevron (VTI – Team Project)</b> ) | Oct 2018             |
| • ACM Programming contest at Arkansas State University ( <b>Second Place</b> )                           | Nov 2017             |

## Leadership

---

**President of Badminton Club**      **California State University Sacramento**      Aug 2019 – Dec 2020

- Set up courts and meeting weekly. Ensure safety for participants.
- Assist club officers during organization events.
- Create club T-shirts and motivate team members.
- Maintain regular communication with members, advisors, and other school associations.

**Treasurer of Badminton Club**      **California State University Sacramento**      Aug 2018 – Jul 2019

- Manage Club budget and ordering Club's equipment (Rackets, Birdies, Strings, and Nets)
- Promote organization on campus.
- Coordinate events and tournaments.

## Community Services and Honors

- 
- |   |                     |
|---|---------------------|
| • Vietnamese Interpreter and volunteer at South Sacramento pop-up Pannell Covid-19 Vaccine          | April 2021          |
| • Volunteer at Coalition of Concerned Medical Professionals Sacramento                              | Sep 2019 – Dec 2019 |
| • Volunteer at World Language Day – Vietnamese Country Table Coordinator<br>At Sacramento State, CA | Nov 2019            |
| • Volunteer at Harvest Sac State, Sacramento CA   | Feb 2018            |
| • Ghost writer (note taking) for students with disabilities at Arkansas State University            | Aug 2017 – Dec 2017 |
| • Volunteer at Arkansas Science Festival and Blood Drive  | 2017                |