Chau (Gavin) Nguyen
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Self-disciplined and goal-driven Ph.D.student in Electrical Engineering at University of Maryland looking for an opportunity to become a tenured professor at a major research university in the United States. Special expertise in the following areas: Signal Processing, Wireless Communications, and Machine Learning / Data Science.

Education

University of Maryland, College Park — Cumulative GPA: N/A
Ph.D. in Electrical Engineering; Advisor: Professor K.J. Ray Liu — August 2018 - Current

The Ohio State University — Cumulative GPA: 3.694/4.000
B.S. in Electrical and Computer Engineering; Cum Laude Graduation — January 2015 - May 2018

Ho Chi Minh City University of Technology (HCMUT) - Vietnam National University — Cumulative GPA: 8.32/10.0
Advanced Program in Electrical and Electronics Engineering — August 2011 - January 2014

Honors and Awards

Inducted into IEEE-Eta Kappa Nu Honor Society, Gamma Chapter at the Ohio State University in SP '18
Ohio State University - College of Engineering Dean's List since SP '15 | Gee Scholarship for Academic Excellence
HCMUT's Merit-based Scholarship for academic excellence for 4 semesters | Top 10% of class in HCMUT

Technical Skills

- Competent In: C, C++, Java, MATLAB, Simulink, Digital Circuit Design, VHDL, ModelSim, Signal Processing, and Analog/Digital Communications Analysis
- Familiar With: Assembly, BASIC, Python, Verilog HDL, OrCAD, Quartus II, PCB Design (Cadence Virtuoso), SolidWorks, and TensorFlow

Selected Major Coursework

At Ohio State University:

- CSE Courses: Software Development and Design (CSE 2231) | Discrete Mathematics (CSE 2321) | Data Structures and Algorithms (CSE 2331)
- ECE Courses: Analog and Digital Communications (ECE 5000) | Introduction to Radars (ECE 5013) | Wireless Networking (ECE 5101) | Digital Signal Processing (ECE 5200) | Medical Imaging Processing (ECE 5206)

At University of Maryland:

- ENEE Courses: Random Processes in Communication & Control (ENEE 620) | Advanced Digital Signal Processing (ENEE 630) | Statistical Pattern Recognition (ENEE 633)
- Non-ENEE Courses: TBD

Work Experience

Department of Electrical and Computer Engineering | University of Maryland — College Park, MD
Graduate Research Assistant — Aug '18 - Current

- Member of Signals and Information Group (SIG) led by Professor K.J. Ray Liu
- Work on Time-Reversal signal processing technique with applications in Indoor Positioning System (IPS) for securities and healthcare related purposes

Department of Computer Science and Engineering | The Ohio State University — Columbus, OH
Undergraduate Research Assistant — Jan '17 - Nov '17

- Developed vision-capable cloudlets for digital agriculture. The research project aimed to localize photo analysis of crops to eliminate restrictions posed by lowering bandwidth, giving growers control over their data, and creating a programmer friendly architecture on an Unmanned Aerial Vehicle (UAV)
- Constructed UAV middleware using Internet of Things (IoT) platform via Java and built an image classifier using Google TensorFlow and machine learning techniques

Department of Computer Science and Engineering | The Ohio State University Columbus, OH
Student Hardware Technician Aug ‘16 – Dec ‘16

- Built, installed, and troubleshooted hardware in computer labs and server room to ensure the computer system operates effectively
- Utilized technical expertise relating to CompTIA A+ Certification Exam and Network Routing/Switching

Project Experience

Rockwell Automation Ethics Competition | IEEE Student Activities Conference | Rowan University Mar ‘17 – Apr ‘17

- Case competition centered around Net Neutrality
- Ranked in the top 25% of schools competing
- Reviewed IEEE Code of Ethics in 2 hours to defend the Net Neutrality proposal to the panel
- 5 min presentation followed by an oral defense of our teams position

SumoBot Competition | IEEE Student Activities Conference | Cleveland State University Mar ‘16 – Apr ‘16

- Collaborated with 4 engineers to create an autonomous sumo robot
- Utilized BASIC to code autonomous capability and RF communications

LeapMotion Forward | Make-A-Thon Competition | The Ohio State University Mar ‘16

- Collaborated with 4 engineers to develop a sensor that allows motions of a hand to control the color patterns of a 16*16 LED board
- Utilized Java to program the LeapMotion sensor to capture the motions of the hand and Arduino to display the color patterns on the LED board based on the hand motions and the desired output from the user(s).

EcoCAR 3 | Center of Automotive Research at the Ohio State University Jan ‘16 - May ‘16

- Designed the Advanced Driver Assistance System (ADAS) program for a 2015 Chevy Camaro to monitor traffic via real-time computer vision
- Utilized MATLAB and Simulink on Linux-based OS

Academic Project Experience

Medical Imaging Processing Techniques Experiments & Simulation Jan ‘18 - Apr ‘18

- Part of a three-member team working on five different medical imaging techniques, including: CT scanning, filtered backprojection, MRI, Ultrasound, and Digital Image Processing utilizing MATLAB

Internet of Things (IoT) Network Design Jan ‘18 - Apr ‘18

- Part of a six-member team working on programming and simulating an IoT system in a hotel setting
- Utilized the Time-Reversal architecture to combat the heterogeneity of devices in terms of bandwidth and connection protocol
- Simulated the Software-Defined Network, Service-Oriented Architecture, and Time-Reversal architectures Using MATLAB with the assumption of hotel consisting of 2000 people and 10000 devices operating at the same time, complex baseband LTE signals condition applied

Multi-Input Single-Output (MISO) Pulsed Doppler Radar System Apr ‘18

- Part of a four-member team working on programming and simulating the operation of a Multi-Input Single-Output (MISO) Pulsed Doppler System using MATLAB
- Developed a complex baseband digital simulator for the radar using sampling rate of 250 MSamples/sec
- Developed a match filter and Range Doppler maps to optimize the output of the system

32-bit Floating-Point Adder & Multiplicator Design & Verification Nov ‘17 - Dec ‘17

- Part of a seven-member team working on programming, verifying, and synthesizing a simple 32-bit floating-point processor (simple processor that can perform addition and multiplication)
- Programmed and verified the processor in VHDL using ModelSim PE (Mentor Graphics)

- Generated test vector using test bench function of VHDL and tested exhaustively to account for all special conditions like Not-a-Number, Overflow, Underflow, and zero. All normal cases are taken into account.

64x32-bit SRAM Design & Verification Nov '16 - Dec '16

- Part of a three-member team working on designing a 6-T SRAM and its decoder using Cadence Virtuoso
- Scaled the sizes and requirements of transistors and determined worst case write access time, worst case write cycle time, worst case read access time and worst case read cycle time

Simple CISC Computer Architecture Design & Verification Nov '16 – Dec '16

- Part of a two-member team working on designing and verifying a simple CISC computer architecture
- Utilized the CISC computer components such as ALU, Memory, Control Unit, and Buses to help the simple architecture perform basic operations such as addition, subtraction, multiplication, shifting, move, and exchange
- Developed test cases for each basic operation implemented with all testing situations, including: base cases, boundary cases, routine cases, and challenging cases

Game of Life Implementation on MSP430 LaunchPad Nov '15 - Dec '15

- Implemented the 64*32 universe of Conway's Game of Life from the scratch using MSP430-associated Assembly Language
- Tested exhaustively the program to account for boundary cases like still lifes, oscillators, and spaceships

Leadership and Volunteer Experience

Co-Founder | White Cloud Education Organization Oct '17 - Present

- Responsibility of founding the organization and advertising it to Vietnamese academic communities
- Assist Vietnamese students to obtain scholarship information of universities in developed countries and prepare for SAT and TOEFL/IELTS exams
- Provide real-time consulting service for more than 200 customers within two months of operation

Vice President | IEEE (Ohio State University Chapter) Aug '17 - Apr '18

- Responsibility of overseeing internal projects and routines while redefining the IEEE OSU brand
- Expanded membership by 30% in a 6 month time-period

Logistic Team Member | Green Summer Campaign May '13 - July '13

- Assisted teams to complete their jobs of making roads, sweeping the weeds, and helping rural areas surrounding the suburb of Ho Chi Minh City, Vietnam with sanitation problems
- Handled multi-tasking jobs efficiently while developing self-motivation and cooperation with other team members

References

Dr. K.J. Ray Liu, Professor & Doctoral Advisor
Dept. of Electrical & Computer Engineering
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Dr. Lee C. Potter, Professor
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