

HOANG TRUONG

2640 W Jewell Ave, Denver, CO 80219 • (+1) 720 345 2243 • hoang.truong@colorado.edu

Education

- 5/2016 – Present: PhD Student, University of Colorado, Boulder. Computer Science.
 - 1/2017 – 5/2017: PhD Student, University of Colorado, Denver. Computer Science.
 - 2012 – 2014: Master degree, KAIST - Korean Advanced Institute of Science and Technology (Korea). Computer Science, research field of Cognitive Radio Network.
 - 2008 – 2012: Bachelor of Science, Cum Laude in Electrical Engineering, KAIST - Korean Advanced Institute of Science and Technology (Korea).
 - 9/2011 – 12/2011: Exchange program in Aalto University, Finland.
 - 2005 – 2008: Hanoi-Amsterdam High School for Gifted Students – Mathematical Major.
 - Fluent English – TOEFL iBT: 106. Intermediate Korean.
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Skills

- Languages: C/C++, Java, Python, MATLAB
 - Database: MySQL
 - Image processing: OpenCV library, MFC.
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Research and Work Experience

- 1/2017 – Present: **Assistant Researcher, MNS Lab** (<http://mnslab.org/>)
Research on wireless communication, capacitive touch communication, mobile security and privacy and mobile application. Current projects include:
 - Wearable authentication solutions for ubiquitous and personal touch-enabled devices.
 - Drone detection system.
- 1/2015 – 1/2017: **Software Engineer, HUMAX Co., Ltd** (<http://www.humaxdigital.com>)
 - Responsible for Android-based set-top box production (device drivers, Bluetooth stacks, hardware verification and factory application)
 - Manage factory mass production process.
 - Design and develop company own DVB engine for Android platform which was integrated into 2016 OTT set-top box productions.
 - Train and manage Android platform junior team for R&D center.
- 9/2012 – 11/2014: **Master degree, RESL lab, KAIST** (<http://resl.kaist.ac.kr>)
 - Implement Slow Hopping based Cooperative Sensing (SHCS) MAC protocol for cognitive radio networks, which improve aggregate throughput as well as achieve better coexistence with primary users and other secondary users in cognitive radio networks where each node has only one half-duplex radio. SHCS-MAC is shown to more efficiently increase network capacity, improve primary user detection probability, and achieve self-coexistence with minimal radio cost.
 - Research on Cooperative routing protocol for Cognitive Radio Adhoc Network, which is proposed to maximize the end-to-end throughput.

- 5/2014 – 11/2014: **Startup Program, KAIST** (<http://startup.kaist.ac.kr>)
Team up with 3 students, propose and develop an on-demand video platform which is free and optimizes for users' experience and movie sharing purpose.
- 6/2012 – 8/2012: **Internship, Fsoft Lab, Vietnam** (<https://www.ftp-software.com>)
Implement a web service: receiving image input from users, using face-detection and finding the most similar image from very large database based on Hadoop Map-reduce algorithm deployed in 5 servers, which significantly reduce the overall processing time.
- 2/2012 – 5/2012: **Graduation Research in Communication and Storage Laboratory (ComSto), KAIST** (<http://comsto.kaist.ac.kr>)
Researched on BCJR algorithm and its application. The use of BCJR algorithm in calculating the achievable information rate of the FSISI channel shows a clear improvement that surpass the capacity of the binary-input AWGN channel at normalized SNRs less than -5dB.
- 7/2011 – 9/2011: **Internship in Smart Sensor Architecture Laboratory (SSAL), KAIST** (<http://vswww.kaist.ac.kr>)
Researched on background subtraction model of smart camera system using compressive sensing.
- 12/2010 – 5/2011: **KAIST Undergraduate Research Program** (<http://urp.kaist.ac.kr>)
Researched on reducing error in retrieving information from captured images of Hologram ID Tags with random damaged. Result from using binary convolutional code in generation and reconstruction process dramatically reduces the error rate of reconstructed information (error rate after reconstruction is less than 0.95% with the original random error rate below 20%).
- 8/2010 – 5/2011: **Part-time researcher in CODE Lab, KAIST** (<http://code.kaist.ac.kr>)
Took part in the image processing procedure for Hologram ID project, developed an algorithm for retrieving information from captured images of Hologram ID Tags, which are one of the most advanced anti-counterfeit ID solutions with large data storage capacity, high security, and strength against tag damages and have been applied in various areas of certificates, credit cards, currencies, and industrial products.
- 9/2010 – 12/2010: **DOSE (Distributed and Outsourced Software Engineering) course, ETH Zurich** (http://se.inf.ethz.ch/courses/2010b_fall/dose/)
Cooperated with 2 teams from ETHZ (Switzerland) and UNRC (Argentina) in developing an English – Spanish learning tool using Eiffel language. Mainly developed the connection between Eiffel simulator to MySQL database and gathered data for a small English – Spanish dictionary (including pictures and pronunciation audio).

Publications

- *Matthan: Drone Presence Detection by Identifying Physical Signatures in the Drone's RF Communication*
Phuc Nguyen, Hoang Truong, Mahesh Ravindranathan, Anh Nguyen, Richard Han, and Tam Vu
ACM MobiSys 2017
- *Capacitive sensing 3D-printed Wristband for Enriched Hand Gesture Recognition*
Hoang Truong, Phuc Nguyen, Anh Nguyen, Nam Bui, and Tam Vu
ACM MobiSys 2017 - WearSys workshop

Field Trip Experience

- 10/2016 – 11/2016: **NTT West** – Fukuoka, Japan
Onsite support and integration for new product ([HB-2000](#))
- 5/2014: **Korea Defense Technology Exhibition** – KINTEX, Korea
Demo: Software-Defined Radio (SDR) platform and Slow Hopping based Cooperative Sensing (SHCS) MAC protocol for cognitive radio networks performance.
- 11/2013: **19th CJK Workshop, Auto-ID Labs** – Seoul, Korea
Presentation: Slow Hopping based Cooperative Sensing (SHCS) MAC protocol for cognitive radio networks implementation.
- 5/2013: **18th CJK Workshop, Auto-ID Labs** – Tokyo, Japan
Presentation: Propose Software-Defined Radio (SDR) platform with ARM-based processor.

Teaching Experience

University of Colorado, Denver, USA

- Fall 2017: TA for Logic Design
- Fall 2017: TA for Embedded System Programming

KAIST, Korea

- 2010 – 2014: Tutor for freshmen in KAIST Tutoring Program (Calculus I, Calculus II, Physics I, Chemistry I, and Introduction to Programming)

Awards and Honors

- 2013: Best questioner award, 18th CJK Workshop.
- 2012 – 2014: KAIST Graduate Scholarship
- 2011: Certificate for successfully completing Undergraduate Research Program (URP), KAIST.
- 2010: Certificate of graduation for successfully completing THE SEVEN HABITS OF HIGHLY EFFECTIVE STUDENTS course.
- 2010: Certificate for successfully completing Developed Software Engineering Project for the course Distributed and Outsourced Software Engineering with the Chair of Software Engineering, ETH Zurich.
- 2008 – 2012: KAIST Undergraduate Scholarship.
- 2009: Outstanding Technical Poster for the Design of a Biosensor for Cancer Cell Detection.