

Research Interests Cyber-Physical Systems, Mobile Healthcare Systems, Embedded Operating Systems, Cognitive Radio Networks, and Wireless Sensor Networks.

Education *DPhil (Ph.D.) student in Computer Science,*
University of Oxford, Oxford, United Kingdom
Advisors: Prof. Niki Trigoni, Prof. Andrew Markham, and Prof. Tam Vu
Duration: 2020 - present

Ph.D. student in Computer Science,
University of Colorado Boulder, Colorado, United States
Advisor: Prof. Tam Vu
Duration: 2018 - 2020

M.Sc. in Computer Science,
Korea Advanced Institute of Science and Technology (KAIST), Daejeon, South Korea
Advisor: Prof. Daeyoung Kim
Graduation year: 2018

B.E. in Computer Engineering
Vietnam National University-University of Technology (HCMUT), Ho Chi Minh city, Vietnam
Advisor: Dr. Anh Pham and M.E. Hieu Bui
Graduation year: 2015
Honor Program, Ranking: 2/233, GPA: 8.95/10

Awards & Recognitions	<i>University of Oxford DPhil Scholarship</i>	2020-2023
	<i>ACM Communication of the ACM Research Highlight</i>	2021
	<i>ACM SIGMOBILE Research Highlight</i>	2020
	<i>ACM GetMobile Research Highlight</i>	2019
	<i>Best Paper Award, ACM MobiCom 2019</i>	2019
	<i>KAIST Graduate Scholarship, KAIST, South Korea</i>	2016-2018
	<i>HCMUT Silver graduation medal, HCMUT, Vietnam.</i>	2015
	<i>HCMUT Excellence Scholarship, HCMUT, Vietnam.</i>	2011-2015
	<i>Odon Vallet's Fellowship, Ho Chi Minh City, Vietnam.</i>	2011
<i>Odon Vallet's Fellowship, Thua Thien Hue, Vietnam.</i>	2009-2010	

Publications ■ *Journals and Magazines*

1. Detection of Microsleep Events with a Behind-the-ear Wearable System.
IEEE TMC - IEEE Transactions on Mobile Computing (IF: 5.577, preprint).
Nhat Pham, Tuan Dinh, Taeho Kim, Zohreh Raghebi, Nam Bui, Hoang Truong, Tuan Nguyen, Farnoush Banaei-Kashani, Ann Halbower, Thang Dinh, Phuc Nguyen, and Tam Vu.
2. eBP: Frequent and comfortable blood pressure monitoring from inside human's ears.
ACM CACM - Communications of the ACM, Vol. 64, No. 8, Aug. 2021.
Nam Bui, **Nhat Pham**, Jessica Barnitz, Phuc Nguyen, Hoang Truong, Taeho Kim, Anh Nguyen, Zhanan Zou, Nicholas Farrow, J. Xiao, Robin Deterding, Thang Dinh and Tam Vu.
Research Highlight
3. eBP: Frequent and comfortable blood pressure monitoring from inside human's ears.
Nam Bui, **Nhat Pham**, Hoang Truong, Phuc Nguyen, J. Xiao, Robin Deterding, and Tam Vu.
ACM GetMobile - Mobile Computing and Communications, Vol. 23, Iss. 4, Dec. 2019.
Research Highlight
4. Epileptic Seizure Detection and Experimental Treatment: A Review.
Taeho Kim, Phuc Nguyen, **Nhat Pham**, Nam Bui, Hoang Truong, Sangtae Ha, Tam Vu
Frontiers in Neurology, Jul. 2020.

5. MSHCS-MAC: A MAC for Multi-hop Cognitive Radio Networks Based on Slow Hopping and Cooperative Sensing Approach with Time Synchronization.
Won-Deuk Yoon, **Nhat Pham**, Ki-Woong Kwon, Jang-Gwan Im, Dae-Young Kim
KICS - The Journal of Korean Institute of Communications and Information Sciences, Vol. 43, No. 11, Nov. 2018

■ Conferences

6. DroneScale: Drone Load Estimation Via Remote Passive RF Sensing.
Phuc Nguyen, Vimal Kakaraparthi, Nam Bui, Nikshep Umamahesh, **Nhat Pham**, Hoang Truong, Yeswanth Guddeti, Dinesh Bharadia, Eric Frew, Richard Han, Daniel Massey, Tam Vu.
ACM SenSys'20 - The 18th ACM Intl' Conf. on Embedded Networked Sensor Systems.
(44 out of 213 submissions, acceptance ratio: 20.7%).
7. WAKE: A Behind-the-ear Wearable System for Microsleep Detection.
Nhat Pham, Tuan Dinh, Zohreh Raghebi, Taeho Kim, Nam Bui, Phuc Nguyen, Hoang Truong, Farnoush Banaei-Kashani, Ann Halbower, Thang Dinh, and Tam Vu.
ACM MobiSys'20 - The 18th ACM Intl' Conf. on Mobile Systems, Applications, and Services.
(34 out of 175 submissions, acceptance ratio: 19.4%).
8. Painometry: Wearable and Objective Quantification System for Acute Postoperative Pain.
H. Truong, N. Bui, Z. Raghebi, M. Ceko, **N. Pham**, P. Nguyen, A. Nguyen, T. Kim, K. Siegfried, E. Stene, T. Tvrdy, L. Weinman, T. Payne, D. Burke, T. Dinh, S. D'Mello, F. Banaei-Kashani, T. Wager, P. Goldstein, and T. Vu.
ACM MobiSys'20 - The 18th ACM Intl' Conf. on Mobile Systems, Applications, and Services.
(34 out of 175 submissions, acceptance ratio: 19.4%).
9. eBP: A Wearable System For Frequent and Comfortable Blood Pressure Monitoring.
Nam Bui, **Nhat Pham**, Jessica Barnitz, Phuc Nguyen, Hoang Truong, Taeho Kim, Anh Nguyen, Zhanan Zou, Nicholas Farrow, J. Xiao, Robin Deterding, Thang Dinh and Tam Vu.
ACM MobiCom'19 - The 25th ACM Intl' Conf. on Mobile Computing and Networking.
(30 out of 186 submissions, acceptance ratio: 16.1%).
Best Paper Award,
ACM GetMobile Research Highlight 2019,
ACM SIGMOBILE Research Highlight 2020,
ACM CACM Research Highlight 2021.
10. MSHCS-MAC: A MAC protocol for Multi-hop cognitive radio networks based on Slow Hopping and Cooperative Sensing approach.
Nhat Pham, Kiwoong Kwon, and Daeyoung Kim.
ISCC'18 - The 23th IEEE Symposium on Computers and Communications, Brazil, June 2018.
11. OIiot-OpenCity: Open Standard Interoperable Smart City Platform.
Yalew Tolcha, Minh Nguyen, Jawook Byun, Kiwoong Kwon, Jiyong Han, Wondeuk Yoon, Nakyung Lee, Hyunseob Kim, **Nhat Pham**, and Daeyoung Kim.
ISC2'18 - IEEE Intl' Smart Cities Conference, Kansas City, Missouri, USA, Sep. 2018
12. IsV2C: An Integrated Road Traffic-Network-Cloud Simulator for V2C Connected Car Services.
Heejae Kim, Jiyong Han, Seonghwan Kim, Jisoo Choi, Dongsik Yoon, Minsu Jeon, Eunjoo Yang, **Nhat Pham**, Sunpil Woo, Daeyoung Kim and Chan-Hyun Youn.
IEEE SCC'17 - The 14th IEEE Intl' Conf. on Services Computing, Hawaii, USA, Jun. 2017.
13. GS1 Global Smart Parking System: One Architecture to Unify Them All.
Nhat Pham, Muhammad Hassan, Hoang Minh Nguyen and Daeyoung Kim.
IEEE SCC'17 - The 14th IEEE Intl' Conf. on Services Computing, Hawaii, USA, Jun. 2017.
14. Towards an Open Framework for Home Automation Development.
Dang-Nhat Pham-Huu, Van-Hien Nguyen, Van-Anh Trinh, Van-Hieu Bui, and Hoang-Anh Pham.
ACOMP'15 - The 9th Intl' Conf. on Advanced Computing and Applications., Ho Chi Minh City, Vietnam, Nov. 2015.

■ Workshops and Demos

15. Demo: Earable - An Ear-Worn Biosignal Sensing Platform for Cognitive State Monitoring and Human-Computer Interaction.
Nhat Pham, Taeho Kim, Frederick M Thayer, Anh Nguyen, and Tam Vu.
ACM MobiSys'19 - The 17th ACM Intl' Conf. on Mobile Systems, Applications, and Services.

16. GS1 Global Smart Parking System: Integrated architecture that provides interoperability of global systems.

Nhat Pham, Sungpil Woo, Muhammad Hassan, Hoang Minh Nguyen and Daeyoung Kim.

KCC'17 - Korea Computer Congress, Jeju, Korea, Jul. 2017.

Patents

■ International Patents

1. Tam Vu, Robin Deterding, Ann Halbower, Farnoush Banaei-Kashani, **Nhat Pham**, and Nam Bui, "A Wearable System for Behind-the-Ear Sensing and Stimulation", PCT/US2020/031712.
2. Tam Vu, Robin Deterding, Nam Bui, and **Nhat Pham**, "Health Sticker: A Modular Adhesive Platform Monitoring Vital Signals", PCT/US2020/015961.

■ Provisional Applications

3. Tam Vu, Robin Deterding, Farnoush Banaei-Kashani, **Nhat Pham**, and Nam Bui, "A Wearable System for Intra-Ear Sensing and Stimulating", Provisional Application No.: 62/900,187.
4. Tam Vu, Robin Deterding, Nam Bui, and **Nhat Pham**, "eBP: A Wearable System For Frequent and Comfortable Blood Pressure Monitoring From Users Ear", Provisional Application No.: 62/900,182.
5. Tam Vu, Robin Deterding, Nam Bui, and **Nhat Pham**, "Breathing Gripper: A Miniature Breath Monitoring Device", Provisional Application No.: 62/968,369.

Experience

■ Research Experience

- **Graduate Research Assistant**, University of Colorado Boulder, USA. 2018-2020
- **Researcher**, Real-time and embedded systems lab, KAIST. 2018

■ Teaching Experience

- **Digital Systems**, University of Oxford, UK. Hilary & Trinity 2021
- **Concurrent Programming**, University of Oxford, UK. Hilary 2021
- **Linear Algebra**, University of Oxford, UK. Michaelmas 2020
- **Data and computer communication**, HCMUT, Vietnam. Fall 2015
- **Embedded systems**, HCMUT, Vietnam. Spring 2015

■ Work Experience

- **Embedded Software Engineer**, FPT Software, Ho Chi Minh City, Vietnam. 2015
- **Embedded Software Intern**, Applied Micro Circuits Corporation, Ho Chi Minh City, Vietnam. 2014
- **Kernel Maintainer**, RIOT-OS (The friendly Operating System for the Internet of Things). 2014-2015
- **Student participant**, 2014 Intel Cup Undergraduate Electronic Design Contest, Shanghai Jiao Tong University, Shanghai, China. 2014

Computer Skills

Programming languages, C/C++, Matlab, Python, Verilog, Java, Android, Bash, Makefile, Java Script, GNU linker script.

Hardware Platform, Software defined radios (USRP, bladeRF), Micro-controllers (ARM Cortex, MSP430, PIC, 8051, MIPS, Intel Atom), and FPGAs.

Operating systems, Linux, Android, Windows, TI-RTOS, freeRTOS, RIOT-OS, Contiki.

Software, Altium (PCB design), GNU Radio, openOCD, GDB, MATLAB.

Version Control, Git, Perforce.

Languages

English

- **TOEFL-iBT**, Total: 105/120. 2018
- **GRE**, Total: 314/340. 2017

Vietnamese, Mother tongue.

Reference

Prof. **Niki Trigoni**, Department of Computer Science, University of Oxford, UK.
Prof. **Andrew Markham**, Department of Computer Science, University of Oxford, UK.
Prof. **Tam Vu**, Department of Computer Science, University of Colorado Boulder, USA.
Prof. **Daeyoung Kim**, School of Computing, KAIST, South Korea.
Prof. **Phuc Nguyen**, Department of Computer Science and Engineering, UTA, USA.
Dr. **Anh Pham**, Faculty of Computer Science and Engineering, HCMUT, Vietnam.
M.E. **Hieu Bui**, Faculty of Computer Science and Engineering, HCMUT, Vietnam.