

**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  
Advisor: 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

<b>Awards &amp; Recognitions</b>	<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>University of Oxford DPhil Scholarship</i>	2020-2023
	<i>Best Paper Award, ACM MobiCom 2019</i>	2019
	<i>KAIST Graduate Scholarship, KAIST, South Korea</i>	2016-2018
	<i>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.**
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**, Sungpil 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. **Tam Vu**, Department of Computer Science, University of Oxford, UK.

Prof. **Daeyoung Kim**, School of Computing, KAIST, South Korea.

Prof. **Phuc Nguyen**, Department of Computer Science and Engineering, University of Texas at Arlington, USA.

Dr. **Anh Pham**, Faculty of Computer Science and Engineering, HCMUT, Vietnam.

M.E. **Hieu Bui**, Faculty of Computer Science and Engineering, HCMUT, Vietnam.