

ANH NGUYEN

Ph.D. Student
Mobile and Networked System (MNS) Laboratory
Department of Computer Science
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EDUCATIONAL BACKGROUND

Ph.D. Student in Computer Science at University of Colorado 2014 – present

Advisor: Dr. Tam Vu

Current research: *mobile sensing, mobile healthcare, signal processing*

M.Sc. in Computer Science at Chonnam National University, South Korea 2010 – 2012

Advisor: Dr. Guee-Sang Lee

Thesis: *Location based Active Contour Model for Object Segmentation from Natural Color Images*

GPA: 4.0 (/4.0)

B.Sc. in Mathematics and Computer Science at University of Science - HCMC, Vietnam 2005 – 2009

Advisor: Dr. Bao Pham

Thesis: *Fingerprint Identification System in Banking Transactions*

Major: Computer Science

Minor: Mathematics

Rank: top 10 (/300)

EMPLOYMENT HISTORY

Research Assistant 2014 – present

Mobile and Networked Systems Lab

Department of Computer Science

University of Colorado

Teaching Assistant 2018 – present

Courses: Design and Analysis of Operating Systems

Department of Computer Science

University of Colorado Boulder

Instructor 2016 – 2017

Courses: Fundamentals of Computing

Department of Computer Science and Engineering

University of Colorado Denver

Teaching Assistant 2014 – 2016

Courses: Fundamentals of Computing Lab, Theory of Automata, Mobile Computing & Programming, Computational Complexity and Algorithms

Department of Computer Science and Engineering

University of Colorado Denver

Instructor

2012 – 2014

Courses: Discrete Mathematics, Pattern Recognition, Machine Learning, Object Oriented Programming

Department of Computer Science

University of Science, Vietnam

AWARDS & HONORS

- Honorable Mention Grad Talk from RMCWiC ACM Celebration Event 2018
- CACM Research Highlights Award 2017
- N2Women Young Researcher Fellowship Award from Networking Networking Women 2017
- NSF Student Travel Grant from ACM MobiSys 2017
- SIGMOBILE Research Highlight 2016
- NSF Student Travel Grant from ACM SenSys 2016
- NSF Student Travel Grant from CRA-Women Grad Cohort Workshop 2015
- Student Travel Grant for the Broadening Participation Workshop from ACM Ubicomp 2014
- Brain Korea 21 (BK21) Research Fund Sponsorship (Korea) 2010 – 2012
- ITRC (Mobile Device Interface Research Center) Research Fund Sponsorship (Korea) 2010 – 2012
- Chonnam National University Global Graduate Scholarship (Korea) 2010 – 2012
- Chonnam National University Academic Achievement Award (Korea) 2012

PUBLICATIONS

Refereed Conference Proceedings

- [C.1] **Anh Nguyen**, Raghda Alqurashi, Zohreh Raghebi, Farnoush Banaei-kashani, Ann C. Halbower, and Tam Vu, *LIBS: A Bioelectrical Sensing System from Human Ears for Staging Whole-Night Sleep Study*, Magazine Communications of the ACM, 2018.
- [C.2] Hoang Truong, Shuo Zhang, Ufuk Muncuk, Phuc Nguyen, Nam Bui, **Anh Nguyen**, Qin Lv, Kaushik Chowdhury, Thang Dinh, and Tam Vu, *CapBand: Battery-free Successive Capacitance Sensing Wristband for Hand Gesture Recognition*, The ACM Conference on Embedded Networked Sensor Systems (ACM SenSys), 2018. (23 out of 147 submissions, acceptance ratio: 15.6%). **Best Paper Award Nominee**
- [C.3] Phuc Nguyen, Hoang Truong, Mahesh Ravindranathan, **Anh Nguyen**, Richard Han, and Tam Vu, *Cost-Effective and Passive RF-Based Drone Presence Detection and Characterization*, ACM GetMobile Highlights, 2018.
- [C.4] Phuc Nguyen, Nam Bui, **Anh Nguyen**, Hoang Truong, Abhijit Suresh, Matthew Whitlock, Duy Pham, Thang Dinh, and Tam Vu, *TYTH-Typing On Your Teeth: Tongue-Teeth Localization for Human-Computer Interface*, The ACM International Conference on Mobile Systems, Applications, and Services (ACM MobiSys), 2018. (37 out of 138 submissions, acceptance ratio: 26.8%).
- [C.5] **Anh Nguyen**, Raghda Alqurashi, Zohreh Raghebi, Farnoush Banaei-kashani, Ann C. Halbower, and Tam Vu, *LIBS: A Lightweight and Inexpensive In-Ear Sensing System for Automatic Whole-Night Sleep Stage Monitoring*, ACM GetMobile Highlights, 2017.

- [C.6] Nam Bui, **Anh Nguyen**, Phuc Nguyen, Hoang Truong, Ashwin Ashok, Thang Dinh, Robin Deterding, and Tam Vu, *Photometry based Blood Oxygen Estimation through Smartphone Cameras*, International Conference on Mobile Computing and Networking - The Eighth Wireless of the Students, by the Students, and for the Students Workshop (ACM MobiCom-S³), 2017. **Best Presentation Award**.
- [C.7] Nam Bui, **Anh Nguyen**, Phuc Nguyen, Hoang Truong, Ashwin Ashok, Thang Dinh, Robin Deterding, and Tam Vu, *PhO2: Optical 3D printed elements and NIR/R light extraction techniques for phone-base blood oxygen level measurement*, The ACM Conference on Embedded Networked Sensor Systems (ACM SenSys), 2017. (26 out of 151 submissions, acceptance ratio: 17.2%). **Best Paper Award Nominee** and **2nd Prize ACM MobiCom App Contest 2017**
- [C.8] **Anh Nguyen**, Duy Nguyen, Nhan Nguyen, Ashwin Ashok, Binh Nguyen, Bao Pham, and Tam Vu, *Demo: Fusing Mobile Sensors for Paper Keyboard On-the-Go*, The ACM International Conference on Mobile Systems, Applications and Services (ACM MobiSys), 2017.
- [C.9] Phuc Nguyen, Hoang Truong, Mahesh Ravindranathan, **Anh Nguyen**, Richard Han, and Tam Vu, *Matthan: Drone Presence Detection by Identifying Physical Signatures in the Drone's RF Communication*, The ACM International Conference on Mobile Systems, Applications and Services (ACM MobiSys), 2017. (34 out of 188 submissions, acceptance ratio: 18%). **SIGMOBILE Research Highlight**
- [C.10] Hoang Truong, Phuc Nguyen, **Anh Nguyen**, Nam Bui, and Tam Vu, *Capacitive sensing 3D-printed Wristband for Enriched Hand Gesture Recognition*, The ACM International Conference on Mobile Systems, Applications and Services - Workshop on Wearable Systems (ACM MobiSys-WearSys), 2017.
- [C.11] **Anh Nguyen**, Zohreh Raghebi, Farnoush Banaei-kashani, Thang Dinh, Ann C. Halbower, and Tam Vu, *Whole Night Sleep Monitoring with a Low-cost In-ear Wearable Device*, The American Thoracic Society International Conference (ATS International Conference), 2017.
- [C.12] **Anh Nguyen**, Raghda Alqurashi, Zohreh Raghebi, Farnoush Banaei-kashani, Ann C. Halbower, and Tam Vu, *A Lightweight and Inexpensive In-ear Sensing System for Automatic Whole-night Sleep Stage Monitoring*, The ACM Conference on Embedded Networked Sensor Systems (ACM SenSys), 2016. (21 out of 119 submissions, acceptance ratio: 17.6%). **Best Paper Award**, **SIGMOBILE Research Highlight**, and **CACM Research Highlight**.
- [C.13] **Anh Nguyen**, Zohreh Raghebi, Farnoush Banaei-kashani, Ann C. Halbower, and Tam Vu, *LIBS: A Low-cost In-Ear Bioelectrical Sensing Solution for Healthcare Applications*, The 22nd Annual International Conference on Mobile Computing and Networking – Workshop on Wireless of the Students, by the Students, for the Students (ACM MobiCom-S³), 2016.
- [C.14] Bahman Rashidi, Carol Fung, **Anh Nguyen**, and Tam Vu, *Android Permission Recommendation using Transitive Bayesian Inference Model*, The European Symposium on Research in Computer Security (ESORICS), 2016.
- [C.15] **Anh Nguyen**, Raghda Alqurashi, Zohreh Raghebi, Farnoush Banaei-kashani, Ann C. Halbower, Thang Dinh, and Tam Vu, *In-ear Biosignal Recording System: A Wearable For Automatic Whole-night Sleep Staging*, The ACM International Conference on Mobile Systems, Applications and Services - Workshop on Wearable Systems and Applications (ACM MobiSys-WearSys), 2016.
- [C.16] Phuc Nguyen, Mahesh Ravindranathan, **Anh Nguyen**, Richard Han, and Tam Vu, *Investigating Cost-effective RF-based Detection of Drones*, The ACM International Conference on Mobile Systems, Applications and Services - Workshop on Micro Aerial Vehicle Networks, Systems, and Applications for Civilian Use (ACM MobiSys-DroNet), 2016.

- [C.17] Moatassem Abdallah, Caroline Clevenger, Tam Vu, and **Anh Nguyen**, *Sensing Occupant Comfort using Wearable Technologies: A Pilot Study*, Construction Research Congress - American Society of Civil Engineers (ASCE CRC), 2015.
- [C.18] **Anh Nguyen**, Raghda Alqurashi, Ann C. Halbower, and Tam Vu, *mSleepWatcher: Why didn't I sleep well?*, ISSAT International Conference on Modeling of Complex Systems and Environments (MCSE), June 2015.
- [C.19] Nguyen Hong Quy, Nguyen Hoang Quoc, **Nguyen Tran Lan Anh**, Hyung-Jeong Yang, and Pham The Bao, *3D Human Face Recognition Using Sift Descriptors of Face's Feature Regions*, New Trends in Computational Collective Intelligence, 2015.
- [C.20] **Nguyen Tran Lan Anh**, Vo Quang Nhat, and Guee-Sang Lee, *Object Segmentation based on Location Information for Level Set Method*, Proceedings of the 7th International Conference on Ubiquitous Information Management and Communication (ICUIMC), Jan. 2013.
- [C.21] **Nguyen Tran Lan Anh**, Vo Quang Nhat, Elyor Kodirov, Soo-Hyung Kim, and Guee-Sang Lee, *Fast Automatic Saliency Map driven Geometric Active Contour Model for Color Object Segmentation*, Proceedings of the 21st International Conference on Pattern Recognition (ICPR), Nov. 2012.
- [C.22] **Nguyen Tran Lan Anh**, Young-Chul Kim, and Guee-Sang Lee, *Morphological Gradient Applied to New Active Contour Model for Color Image Segmentation*, Proceedings of the 6th International Conference on Ubiquitous Information Management and Communication (ICUIMC), Feb. 2012.
- [C.23] **Nguyen Tran Lan Anh**, Nguyen Huy Hoang, Le Thi Khue Van, and Guee-Sang Lee, *Object Segmentation in Color Images using Distance Regularized Level Set*, Proceedings of the 3rd International Conference on Internet (ICONI), Dec. 2011.
- [C.24] **Nguyen Tran Lan Anh**, Jeong-Hwan Kim, and Guee-Sang Lee, *Camera Based Motion Tracking by Camera Images*, The Conference on Human-Computer Interaction (HCI), Jan. 2011.

Refereed Journal Articles

- [J.1] Bahman Rashidi, Carol Fung, **Anh Nguyen**, Tam Vu, and Elisa Bertino, *Android User Privacy Preserving through Crowdsourcing*, IEEE Transactions on Information Forensics and Security (IEEE TIFS), 2017.
- [J.2] **Nguyen Tran Lan Anh**, Soo-Hyung Kim, Hyung-Jeong Yang, and Guee-Sang Lee, *Color Image Segmentation using a Morphological Gradient-based Active Contour Model*, International Journal of Innovative Computing Information and Control (IJICIC), Nov. 2013.
- [J.3] **Nguyen Tran Lan Anh** and Guee-Sang Lee, *Proximity based Object Segmentation in Natural Color Images Using Level Set Method*, Transactions on Fundamentals of Electronics, Communications, and Computer Sciences (IEICE), Aug 2013.
- [J.4] **Nguyen Tran Lan Anh** and Guee-Sang Lee, *Color Image Segmentation using Distance Regularized Level Set*, Journal of Korea Society for Internet Information (KSII), Aug. 2012.
- [J.5] **Nguyen Tran Lan Anh**, Phan Thi My Dung, and Pham The Bao, *Fingerprint Authentication System in Banking Transaction*, GESTS International Transactions on Computer Science and Engineering, May 2011.

Patents

- [P.1] Caroline Clevenger, Moatassem Abdullah, Tam Vu, **Anh Nguyen**, *Thermal comfort building monitoring with wearables: method, apparatus, and system*, U.S. Provisional Patent Application, 09/2015.
- [P.2] Carol Fung, Bahman Rashidi, Tam Vu, **Anh Nguyen**, *Resource Access Permission Recommendation Method for Mobile Applications*, U.S. Patent pending, 10/2016
- [P.3] Tam Vu, Ann Halbower, **Anh Nguyen**, *Method, apparatus, and system for in-ear biological signal monitoring*, U.S. Provisional Patent Application, No. 62/371,575, 7/2016
- [P.4] Tam Vu, Robin Diterding, **Anh Nguyen**, Phuc Nguyen, **Apparatus and methods for smart phone-based SpO₂ measurement**, U.S. Provisional Patent Application, 8/2016

TEACHING EXPERIENCE

CSCI 3753: Design and Analysis of Operating Systems Teaching Assistant Department of Computer Science, University of Colorado Boulder	Fall 2018
CSCI 1410: Fundamentals of Computing Instructor Department of Computer Science and Engineering, University of Colorado Denver	Spring 2017 Fall 2016 Summer 2016
CSCI 4034: Theoretical Foundations of Computer Science Teaching Assistant Department of Computer Science and Engineering, University of Colorado Denver	Fall 2016
CSCI 5446: Theory of Automata Teaching Assistant Department of Computer Science and Engineering, University of Colorado Denver	Spring 2016
CSCI 5173/7173: Computational Complexity and Algorithms Teaching Assistant Department of Computer Science and Engineering, University of Colorado Denver	Spring 2016
CSCI 1411: Fundamentals of Computing Lab Instructor Department of Computer Science and Engineering, University of Colorado Denver	Fall 2015 Summer 2015 Spring 2015 Fall 2014
CSCI 1410: Fundamentals of Computing Teaching Assistant Department of Computer Science and Engineering, University of Colorado Denver	Fall 2015 Spring 2015
CSCI 4800/5800: Mobile Computing & Programming Teaching Assistant Department of Computer Science and Engineering, University of Colorado Denver	Fall 2014

Course: Advanced Machine Learning Teaching Assistant Department of Computer Science, University of Science, VNU-HCMC, Vietnam	Spring 2014
Course: Discrete Mathematics Instructor Department of Computer Science, University of Science, VNU-HCMC, Vietnam	Spring 2014 Fall 2013 Fall 2012
Course: Object Oriented Programming Instructor Department of Computer Science, University of Science, VNU-HCMC, Vietnam	Spring 2014 Spring 2013
Course: Pattern Recognition Instructor Department of Computer Science, University of Science, VNU-HCMC, Vietnam	Fall 2013
Course: Introduction of Machine Learning Teaching Assistant Department of Computer Science, University of Science, VNU-HCMC, Vietnam	Fall 2013
Course: Data Structure and Algorithms Lab Instructor Department of Computer Science, University of Science, VNU-HCMC, Vietnam	Fall 2013
Course: Algorithm Analysis Lab Instructor Department of Computer Science, University of Science, VNU-HCMC, Vietnam	Spring 2013

PROFESSIONAL ACTIVITIES

- **Reviewer Activities:**
 - Conference reviewer: ACM UbiComp, ACM SenSys, IEEE/ACM CHASE, ACM MobiSys, IEEE PerCom, ACM/IEEE IPSN, IEEE VNC, ACM MobiSys
 - Journal reviewer: IEEE Journal of Biomedical and Health Informatics (BHI), ACM Transactions on Cyber-Physical Systems (TCPS)
- **Technical Program Committee:**
 - ACM MobiCom - S³ Workshop 2017
- **Event Organizer:**
 - N²Women Meeting at MobiCom 2017
- **Professional Services:**
 - Social media Co-Chair in N2 Women Board, 2018 - 2019