

# Taeho Kim

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<b>RESEARCH INTERESTS</b>	Deep Learning, Mobile Computing, Mobile Healthcare	
<b>EDUCATION</b>	<b>University of Colorado Boulder</b> , Boulder, CO, USA ▪ PhD Candidate at the Department of Computer Science	Aug 2018 – Present
	<b>University of Colorado Boulder</b> , Boulder, CO, USA ▪ Master of Science in Computer Science	Aug 2018 – May 2022
	<b>Korea University</b> , Seoul, Korea ▪ Bachelor of Science in Computer Science and Engineering ▪ Bachelor of Engineering in Software Technology and Enterprise Program	Mar 2011 – Feb 2018
<b>WORK EXPERIENCE</b>	<b>Amazon Web Services, Inc.</b> , Santa Clara, CA, USA <i>Applied Scientist Intern</i> ▪ Distributed training and inference of large-scale deep learning models	May 2023 – Aug 2023
	<b>Amazon Web Services, Inc.</b> , Santa Clara, CA, USA <i>Applied Scientist Intern</i> ▪ Machine learning compiler tuning optimization	May 2022 – Aug 2022
	<b>Exicon Corp.</b> , Seongnam, Korea <i>Research and Development Intern</i> ▪ Researched technologies of products in semi-conductor testing machine ▪ Analyzed Fast Fourier Transform (FFT) algorithm and applied it for digitizers	Jan 2016 – Feb 2016
<b>RESEARCH EXPERIENCE</b>	<b>Internet Systems Laboratory</b> , CU Boulder, CO, USA <i>Research Assistant (Advisor: Professor Sangtae Ha)</i>	Jan 2020 – Present
	<b>Mobile and Networked Systems Laboratory</b> , CU Boulder, CO, USA <i>Research Assistant (Advisor: Professor Tam N. Vu)</i>	Jul 2018 – Dec 2019
	<b>Wireless Data Communications Laboratory</b> , Korea University, Seoul, Korea <i>Research Intern (Advisor: Professor Hyogon Kim)</i>	Mar 2016 – Jun 2018
<b>PUBLICATIONS</b>	<b>CONFERENCES</b>	
	[1] <a href="#">Taeho Kim</a> , Yanming Wang, Vatshank Chaturvedi, Lokesh Gupta, Seyeon Kim, Yongin Kwon and Sangtae Ha, “LLMem: Estimating GPU Memory Usage for Fine-Tuning Pre-Trained LLMs,” in <i>The 33rd International Joint Conference on Artificial Intelligence</i> , Aug 2024. [pdf]	
	[2] <a href="#">Taeho Kim</a> , Yongin Kwon, Jemin Lee, Taeho Kim and Sangtae Ha, “CPrune: Compiler-Informed Model Pruning for Efficient Target-Aware DNN Execution,” in <i>The 17th European Conference on Computer Vision</i> , Tel Aviv, Israel, Oct 2022. [pdf]	
	[3] Nhat Pham, Tuan Dinh, Zohreh Raghebi, <a href="#">Taeho Kim</a> , Nam Bui, Phuc Nguyen, Hoang Truong, Farnoush Banaei-Kashani, Ann Halbower, Thang N. Dinh and Tam Vu, “WAKE: A Behind-the-ear Wearable System for Microsleep Detection,” in <i>The 18th ACM International Conference on Mobile Systems, Applications, and Services</i> , Toronto, Canada, Jun 2020. [pdf]	
	[4] Hoang Truong, Nam Bui, Zohreh Raghebi, Marta Ceko, Nhat Pham, Phuc Nguyen, Anh Nguyen, <a href="#">Taeho Kim</a> , Katrina Siegfried, Evan Stene, Taylor Tvrdy, Logan Weinman, Thomas Payne, Devin Burke, Thang Dinh, Sidney D’Mello, Farnoush Banaei-Kashani, Tor Wager, Pavel Goldstein and Tam Vu, “Painometry: Wearable and Objective Quantification System for Acute Postoperative Pain,” in <i>The 18th ACM International Conference on Mobile Systems, Applications, and Services</i> , Toronto, Canada, Jun 2020. [pdf]	

- [5] Nam Bui, Nhat Pham, Jessica Jacqueline Barnitz, Zhanan Zou, Phuc Nguyen, Hoang Truong, Taeho Kim, Nicholas Farrow, Anh Nguyen, Jianliang Xiao, Robin Deterding, Thang Dinh and Tam Vu, “eBP: A Wearable System For Frequent and Comfortable Blood Pressure Monitoring From User’s Ear,” in *The 25th Annual International Conference on Mobile Computing and Networking*, Los Cabos, Mexico, Oct 2019. [pdf]
- [6] P. Nguyen, T. Kim, J. Miao, D. Hesselius, E. Kenneally, D. Massey, E. Frew, R. Han, and T. Vu, “Towards RF-based Localization of a Drone and Its Controller,” in *The 5th ACM Workshop on Micro Aerial Vehicle Networks, Systems, and Applications*, Seoul, Korea, Jun 2019. [pdf]
- [7] N. Pham, T. Kim, F. M. Thayer, A. Nguyen, and T. Vu, “Demo: Earable - An Ear-Worn Biosignal Sensing Platform for Cognitive State Monitoring and Human-Computer Interaction,” in *The 17th ACM International Conference on Mobile Systems, Applications, and Services (Demo)*, Seoul, Korea, Jun 2019. [pdf] [demo]
- [8] T. Kim, W. Han, H. Kim, and Y. Park, “Vulnerable Road User Protection through Intuitive Visual Cue on Smartphones,” in *Proceedings of the 2nd ACM International Workshop on Connected and Automated Vehicle Mobility, A Workshop of MobiCom 2017*, Snowbird, Utah, USA, Oct 2017. [pdf] [slides] [demo1] [demo2]
- [9] T. Kim and H. Kim, “Vehicle-to-Vehicle Message Content Plausibility Check through Low-Power Beaconing,” in *Proceedings of IEEE 86th Vehicular Technology Conference: VTC2017-Fall*, Toronto, Canada, Sep 2017. [pdf] [slides] [video]
- [10] T. Kim, W. Han, and Y. Park, “Visual Cue-Based VRU Protection on Smartphones,” in *Proceedings of the 15th ACM International Conference on Mobile Systems, Applications, and Services (poster)*, Niagara Falls, NY, USA, Jun 2017. [pdf] [poster]

#### JOURNALS

- [1] Nam Bui, Nhat Pham, Jessica Jacqueline Barnitz, Zhanan Zou, Phuc Nguyen, Hoang Truong, Taeho Kim, Nicholas Farrow, Anh Nguyen, Jianliang Xiao, Robin Deterding, Thang Dinh and Tam Vu, “eBP: an ear-worn device for frequent and comfortable blood pressure monitoring,” in *Communications of the ACM*, Jul 2021. [pdf]
- [2] Nhat Pham, Tuan Dinh, Taeho Kim, Zohreh Raghebi, Nam Bui, Hoang Truong, Tuan Nguyen, Farnoush Banaei-Kashani, Ann Halbower, Thang N. Dinh, Vp Nguyen and Tam Vu, “Detection of Microsleep Events with a Behind-the-ear Wearable System,” in *IEEE Transactions on Mobile Computing*, Jun 2021. [pdf]
- [3] Taeho Kim, Phuc Nguyen, Nhat Pham, Nam Bui, Hoang Truong, Sangtae Ha and Tam Vu, “Epileptic Seizure Detection and Experimental Treatment: A Review,” in *Frontiers in Neurology - Epilepsy*, Jul 2020. [pdf]
- [4] Hyogon Kim and Taeho Kim, “Vehicle-to-vehicle (V2V) Message Content Plausibility Check for Platoons through Low-Power Beaconing,” in *Sensors 2019, 19(24)*, Dec 2019. [pdf]

#### TEACHING EXPERIENCE

- F20 & S21 & F22 & S23 & F23 & S24: TA for Computer Systems (CSCI 2400)
- F19 & S20: TA for Computer Science 1: Starting Computing-Engineering Application (CSCI 1320)

#### PATENTS

- “System and method for detecting fake information about vehicle location” [KR][US][DE][CN]
- “Method and apparatus for verifying vehicle in inter-vehicular communication environment” [KR][US][CN][DE]

#### AWARDS & SCHOLARSHIPS

- National Science and Engineering Scholarship, Korea Student Aid Foundation 2015 – 2016
  - For attaining a semester GPA of at least 3.50/4.50. Full-tuition scholarship (3rd and 4th grade)
- Software Technology and Enterprise Program Scholarship, Korea University 2015 – 2016
  - Additional scholarship to support for Software projects and Start-up related educations (3rd and 4th grade)
- Excellent Assistant Award for a Student with Disabilities, Korea University Support Center for Students with Disabilities Mar 2016
  - An assistant who supported the learning of a disabled student for more than a year with high praise
- Academic scholarships, Korea University
  - Best Honors Scholarships (a second semester, 2nd grade) Aug 2014
  - Honors Scholarships (a second semester, 1st grade and a first semester, 2nd grade) Aug 2011, Feb 2014

<b>EXTRA CURRICULAR ACTIVITIES</b>	<p><b>Korea University Support Center for Students with Disabilities</b>, Seoul, Korea      Mar 2015 – Jun 2016 <i>Educational Assistant</i></p> <ul style="list-style-type: none"> <li>▪ Helped a student with disabilities to keep up with his classes</li> </ul> <p><b>Korea University Facilitation Society</b>, Seoul, Korea      Jul 2015 – Mar 2016 <i>Contents Team Leader</i></p> <ul style="list-style-type: none"> <li>▪ Made program contents for meeting processes and public relations</li> <li>▪ Conducted conferences and educational services at the request of external agencies</li> <li>▪ Participated in study groups for facilitation techniques and meeting management skills</li> </ul> <p><b>Korea University Institute of Computer Security</b>, Seoul, Korea      Mar 2011 – Feb 2012 <i>Member</i></p> <ul style="list-style-type: none"> <li>▪ Conducted a project to convert various codes to plain texts in a club competition</li> <li>▪ Participated in study groups for programming languages and reverse engineering</li> </ul> <p><b>JoongAng Ilbo Educational Mentoring Program</b>, Seoul, Korea      Sep 2011 – Jan 2012 <i>Educational Volunteer</i></p> <ul style="list-style-type: none"> <li>▪ gave a student who was interested in computer science a lot of advice and information for the department</li> </ul> <p><b>Seoul Metropolitan Educational Service Program</b>, Seoul, Korea      Jun 2011 – Dec 2011 <i>Educational Volunteer</i></p> <ul style="list-style-type: none"> <li>▪ taught math and English after school to students who did not have enough family support</li> </ul>
<b>MILITARY SERVICE</b>	<p><b>Republic of Korea Army</b>, The 1st Infantry Division, Korea      Apr 2012 – Jan 2014 <i>Sergeant</i></p>
<b>LANGUAGES</b>	<ul style="list-style-type: none"> <li>▪ Korean: Native language</li> <li>▪ English: Fluent</li> </ul>
<b>SKILLS</b>	<ul style="list-style-type: none"> <li>▪ Experienced in DNN model compression and compilation</li> <li>▪ Proficient in C, C++, Python, Java, MATLAB, L<sup>A</sup>T<sub>E</sub>X</li> <li>▪ Intermediate level in HTML, CSS, PHP, JavaScript</li> <li>▪ Others: C#, Ocaml</li> </ul>
<b>REFERENCES</b>	<p><b>Prof. Sangtae Ha</b> Associate Professor Director, Internet Systems Laboratory Department of Computer Science University of Colorado Boulder</p> <p style="text-align: right;"><a href="mailto:sangtae.ha@colorado.edu">sangtae.ha@colorado.edu</a> <a href="http://netstech.org/sangtaeha/">http://netstech.org/sangtaeha/</a></p> <p><b>Prof. Tam Vu</b> Associate Professor Director, Mobile and Networked Systems (MNS) Laboratory Department of Computer Science University of Colorado Boulder</p> <p style="text-align: right;">+1-303-735-4448 <a href="mailto:tam.vu@colorado.edu">tam.vu@colorado.edu</a> <a href="http://mnslab.org/tamvu/">http://mnslab.org/tamvu/</a></p> <p><b>Prof. Hyogon Kim</b> Professor Department of Computer Science and Engineering College of Informatics Korea University</p> <p style="text-align: right;">+82-2-3290-3569 <a href="mailto:hyogon@korea.ac.kr">hyogon@korea.ac.kr</a> <a href="http://widen.korea.ac.kr">http://widen.korea.ac.kr</a></p> <p style="text-align: right;">[CV updated on 2024-04-18]</p>