

# Chunjong Park

Software Engineer, Google DeepMind

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RESEARCH INTERESTS      Multimodal LLM, AI for Health

EDUCATION      **University of Washington**      JUN. 2022  
Ph.D., Computer Science & Engineering, (*Advisor: Shwetak Patel*)

**Korea Advanced Institute of Science and Technology (KAIST)**      FEB. 2017  
M.S., Computer Science, (*Advisor: Sung-Ju Lee*)

**Korea Advanced Institute of Science and Technology (KAIST)**      FEB. 2015  
B.S., Computer Science, (*Advisor: Sue Moon*)

WORK / RESEARCH EXPERIENCES      **Google DeepMind**      SEATTLE, WA  
*Software Engineer*      MAY 2024 ~  
Building multimodal LLMs for health.

**Google Research**      SEATTLE, WA  
*Software Engineer*      AUG. 2022 ~ MAY 2024  
Building foundation models for health and well-being.

**UbiComp Lab., University of Washington**      SEATTLE, WA  
*Research Assistant*      SEP. 2017 ~ JUN. 2022  
Designing and building mobile health applications using machine learning and computer vision.

**Microsoft Research**      REDMOND, WA  
*Research Intern*      JUN. 2021 ~ SEPT. 2021  
(Manager: Tiffany Kuo, Mentors: Daniel McDuff, Miah Wander, Becky Mieloszyk)  
Built blood pressure estimation neural networks using photoplethysmography (PPG) signal from smartphone.

**Microsoft Research**      REDMOND, WA  
*Research Intern*      JUN. 2020 ~ SEPT. 2020  
(Manager: Ken Hinckley, Mentors: Michel Pahud, Eyal Ofek, Teddy Seyed)  
Built sensor-mediated interaction techniques for seamless content sharing in multi-device, multi-user environment, using proxemics and micro-mobility.

**Snap Inc.**      SEATTLE, WA  
*Research Intern*      JUN. 2019 ~ DEC. 2019  
(Manager: Andrés Monroy-Hernández)  
Built a non-textual communication application on smartphone and wearable by seamlessly recommending appropriate avatars that represent user's current context. Prototypes released in App Store ([Significant Otter](#), [BFF](#))

**Nokia Bell Labs**      CAMBRIDGE, UK  
*Research Intern*      JUN. 2018 ~ SEPT. 2018  
(Manager: Fahim Kawsar, Mentors: Alberto Gil Ramos, Sourav Bhattacharya)  
Built strongly labeled audio dataset and a deep learning model on IoT devices for understanding ambient contexts.

**Networking & Mobile Systems Lab., KAIST**      DAEJEON, KOREA  
*Research Assistant*      MAR. 2015 ~ JUL. 2017  
Worked on exploring context-aware smartphone notification management, understanding thermal characteristics of smartphones, and exploring better use of micro spare time.

## PUBLICATIONS

## Capabilities of Gemini Models in Medicine

Khaled Saab, Tao Tu, Wei-Hung Weng, Ryutaro Tanno, David Stutz, Ellery Wulczyn, Fan Zhang, Tim Strother, **Chunjong Park**, Elahe Vedadi, Juanma Zambrano Chaves, Szu-Yeu Hu, Mike Schaekermann, Aishwarya Kamath, Yong Cheng, David G.T. Barrett, Cathy Cheung, Basil Mustafa, Anil Palepu, Daniel McDuff, Le Hou, Tomer Golany, Luyang Liu, Jean-baptiste Alayrac, Neil Houlsby, Nenad Tomasev, Jan Freyberg, Charles Lau, Jonas Kemp, Jeremy Lai, Shekoofeh Azizi, Kimberly Kanada, SiWai Man, Kavita Kulkarni, Ruoxi Sun, Siamak Shakeri, Luheng He, Ben Caine, Albert Webson, Natasha Latysheva, Melvin Johnson, Philip Mansfield, Jian Lu, Ehud Rivlin, Jesper Anderson, Bradley Green, Renee Wong, Jonathan Krause, Jonathon Shlens, Ewa Dominowska, S. M. Ali Eslami, Katherine Chou, Claire Cui, Oriol Vinyals, Koray Kavukcuoglu, James Manyika, Jeff Dean, Demis Hassabis, Yossi Matias, Dale Webster, Joelle Barral, Greg Corrado, Christopher Sementur, S. Sara Mahdavi, Juraj Gottweis, Alan Karthikesalingam, Vivek Natarajan  
*arxiv*, Apr. 2024

## A Bag of Tricks for Few-Shot Class-Incremental Learning

Shuvendu Roy, **Chunjong Park**, Aldi Fahrezi, Ali Etemad  
*arxiv*, Mar. 2024

## CAPAPP: Smartphone-Based Capillary Refill Index Assessment in Healthy Children

Jonathan Strutt, Girish Narayanswamy, **Chunjong Park**, Devesh Sarda, Sixuan Wu, Matthew Thompson, Lauren Harvey, Rachel Hedstrom, Amy Kodet, Shwetak Patel, Alex Mariakakis  
*Frontiers in Biomedical Devices*, Apr. 2023

## Reliable and Trustworthy Machine Learning for Health Using Dataset Shift Detection

**Chunjong Park**, Anas Awadalla, Tadayoshi Kohno, Shwetak Patel  
*Conference on Neural Information Processing Systems (NeurIPS)*, Dec. 2021

## Air Constellations: In-Air Device Formations for Cross-Device Interaction via Multiple Spatially-Aware Armatures

Nicolai Marquardt, Nathalie Henry Riche, Christian Holz, Hugo Romat, Michel Pahud, Frederik Brudy, David Ledo, **Chunjong Park**, Molly Jane Nicholas, Teddy Seyed, Eyal Ofek, Bongshin Lee, William A. S. Buxton, and Ken Hinckley  
*ACM Symposium on User Interface Software and Technology (UIST)*, Oct. 2021

## Significant Otter: Understanding the Role of Biosignals in Communication

Fannie Liu, **Chunjong Park**, Yu Jiang Tham, Tsung-Yu Tsai, Laura Dabbish, Geoff Kaufman, Andrés Monroy-Hernández  
*ACM Conference on Human Factors in Computing Systems (CHI)*, May. 2021

## RDTCheck: A Smartphone App for Monitoring Rapid Diagnostic Test Administration

Devesh Sarda, **Chunjong Park**, Hung Ngo, Alex Mariakakis, Shwetak Patel  
*ACM Conference on Human Factors in Computing Systems (CHI) Late-Breaking Work*, May. 2021

## Online Mobile App Usage as an Indicator of Sleep Behavior and Job Performance

**Chunjong Park**, Morelle Arian, Xin Liu, Leon Sasson, Jeffrey Kahn, Shwetak Patel, Alex Mariakakis, Tim Althoff  
*The Web Conference (WWW)*, Apr. 2021

## The Design and Evaluation of a Mobile System for Rapid Diagnostic Test Interpretation

**Chunjong Park**, Hung Ngo, Libby Rose Lavitt, Vincent Karuri, Shiven Bhatt, Peter Lubell-Doughtie, Anuraj H. Shankar, Leonard Ndwiga, Victor Osofi, Juliana K. Wambua, Philip Bejon, Lynette Isabella Ochola-Oyier, Monique Chilver, Nigel Stocks, Victoria Lyon, Barry R. Lutz, Matthew Thompson, Alex Mariakakis, Shwetak Patel  
*Proceedings of the ACM on Interactive, Mobile, Wearable and Ubiquitous Technologies (IMWUT)*, Mar. 2021

## Diagnostic accuracy of an app-guided, self-administered test for influenza among individuals presenting to general practice with influenza-like illness: study protocol

Victoria Lyon, Monica Zigman Suchsland, Monique Chilver, Nigel Stocks, Barry Lutz, Philip Su, Shawna Cooper, **Chunjong Park**, Libby Rose Lavitt, Alex Mariakakis, Shwetak Patel, Chelsey Graham, Mark Rieder, Cynthia LeRouge, Matthew Thompson  
*BMJ Open*, Nov. 2020

## Augmenting Conversational Agents with Ambient Acoustic Contexts

**Chunjong Park**, Chulhong Min, Sourav Bhattacharya, Fahim Kawsar

*ACM International Conference on Human-Computer Interaction with Mobile Devices and Services (Mobile-HCI)*, Oct. 2020

Supporting Smartphone-Based Image Capture of Rapid Diagnostic Tests in Low-Resource Settings  
**Chunjong Park**, Alex Mariakakis, Jane Yang, Diego Lassala, Yasamba Djiguiba, Youssouf Keita, Hawa Diarra, Beatrice Wasunna, Fatou Fall, Marème Soda Gaye, Bara Ndiaye, Shwetak Patel, Ari Johnson, Isaac Holeman  
*International Conference on Information and Communication Technologies and Development (ICTD)*, Jun. 2020

Fire in Your Hands: Understanding Thermal Behavior of Smartphones  
Soowon Kang, Hyeonwoo Choi, Soo Young Park, **Chunjong Park**, Jemin Lee, Uichin Lee, and Sung-Ju Lee  
*ACM Conference on Conference on Mobile Computing and Networking (MobiCom)*, Oct. 2019

“Don’t Bother Me. I’m Socializing!”: A Breakpoint-Based Smartphone Notification System  
**Chunjong Park**, Junsung Lim, Juho Kim, Sung-Ju Lee, and Dongman Lee  
*ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, Feb. 2017

Zaturi: We Put Together the 25th Hour for You. Create a Book for Your Baby  
Bumsoo Kang, Chulhong Min, Wonjung Kim, Inseok Hwang, **Chunjong Park**, Seungchul Lee, Sung-Ju Lee, and Junehwa Song  
*ACM Conference on Computer-Supported Cooperative Work and Social Computing (CSCW)*, Feb. 2017

DX: Accurate Latency-based Congestion Feedback for Datacenters  
Changhyun Lee, **Chunjong Park**, Keon Jang, Sue Moon, and Dongsu Han  
*IEEE/ACM Transaction on Networking*, Feb. 2017

Accurate Latency-based Congestion Feedback for Datacenters  
Changhyun Lee, **Chunjong Park**, Keon Jang, Sue Moon, and Dongsu Han  
*USENIX Annual Technical Conference (ATC)*, Jul. 2015

#### PATENTS

Tilt-responsive techniques for sharing content  
Kenneth P Hinckley, Michel Pahud, Nathalie M Riche, Molly Nicholas, **Chunjong Park**, Nicolai Marquardt  
U.S. Patent App. January 2023

Non-Textual Communication and User States Management  
Andrés Monroy-Hernández, **Chunjong Park**, and Fannie Liu  
U.S. Patent App. March 2021

#### TEACHING EXPERIENCE

Teaching Assistant  
**Introduction to Computer Communication Networks** University of Washington  
WINTER 2018, FALL 2017

Teaching Assistant  
**Introduction to Computer Networks** KAIST  
SPRING 2016, SPRING 2015

Teaching Assistant  
**Networking for Smartphone Systems and IoT** KAIST  
FALL 2015

#### PROGRAMMING SKILLS

- **Language:** C, C++, Java, Javascript/Node.js, Python, Objective-C, Swift
- **OS/Platform:** Linux/Ubuntu, Android, iOS/WatchOS
- **Hardware:** Arduino
- **Framework/Library/Version Control:** OpenCV, PyTorch, TensorFlow, scikit-learn, Git

#### ACADEMIC SERVICES

Reviewer IMWUT 2018, 2019, 2020, 2021 CHI 2019, 2020, 2021  
MobileHCI 2019, ISWC 2020, IEEE Pervasive Comp. 2020  
Student Volunteer UbiComp 2019, 2020

#### AWARDS

Microsoft W+D Summer 2020 Hackathon Winners MICROSOFT, AUG. 2020  
Outstanding Teaching Assistant Award KAIST, MAR. 2017  
Outstanding M.S. Thesis Award KAIST, FEB. 2017  
Outstanding Teaching Assistant Award KAIST, MAR. 2016  
The 9<sup>th</sup> Open Source SW World Challenge, Silver Medal KOSSA, DEC. 2015