

Nam Hee Kim

CURRICULUM VITAE

Konemiehentie 2, 00076 Aalto, Finland

+358504643844 | [✉ namhee.kim@aalto.fi](mailto:namhee.kim@aalto.fi) | [🏠 namheegordonkim.github.io](https://namheegordonkim.github.io) | [📱 namheegordonkim](https://namheegordonkim) | [📺 nkim412](https://nkim412)

Education

D.Sc. (Ph.D.) in Computer Science

Espoo, Finland

AALTO UNIVERSITY

2019 - 2025

- Finnish Center for AI Open Application Award & NSERC Canada Graduate Scholarship-Doctoral Program
- Supervisors: Perttu Hämäläinen and Jaakko Lehtinen
- Topic: Machine learning algorithms for human-in-the-loop embodied intelligence applications.

M.Sc. in Computer Science (Thesis-Based)

Vancouver, BC, Canada

UNIVERSITY OF BRITISH COLUMBIA

2019 - 2021

- NSERC Canada Graduate Scholarship - Master's (CGS-M) Award
- Supervisor: Michiel van de Panne
- Topic: Reinforcement learning and deep learning for motion control and character animation.

B.Sc. in Computer Science and Statistics (With Distinction)

Vancouver, BC, Canada

UNIVERSITY OF BRITISH COLUMBIA

2016 - 2018

- UBC Department of Computer Science Academic Award of Excellence (Highest GPA among Combined Majors)

Bachelor of Computer Science (Transferred)

Houston, TX, USA

RICE UNIVERSITY

2012 - 2016

- President's Honor Roll

Publications

9. Cheema, N., Xu, R., **Kim, N. H.**, Hämäläinen, P., Golyanik, V., Habermann, M., Theobalt, C. & Slusallek, P. (2023). Discovering Fatigued Movements for Virtual Character Animation. In ACM SIGGRAPH Asia 2023 Conference Proceedings (pp. 1-12).
8. Mensah, D., **Kim, N. H.**, Aittala, M., Laine, S. & Lehtinen, J. (2023). A Hybrid Generator Architecture for Controllable Face Synthesis. In ACM SIGGRAPH 2023 Conference Proceedings (pp. 1-10).
7. Cohan, S., **Kim, N.H.**, Rolnick, D. & van de Panne, M. (2022). Understanding the Evolution of Linear Regions in Deep Reinforcement Learning. In Proceedings of Neural Information Processing Systems (NeurIPS) 2022.
6. **Kim, N.H.**, Kirjonen, M. & Hämäläinen, P. (2022). Learning High-Risk High-Precision Motion Control. ACM SIGGRAPH Conference on Motion, Interaction and Games.
5. Ng, B., Casazza, W., **Kim, N.H.**, Wang, C., Farhadi, F., Tasaki, S., Bennett, D., De Jager, P., Gaiteri, C. & Mostafavi, S.. (2021). Cascading Epigenomic Analysis for Identifying Disease Genes from the Regulatory Landscape of GWAS Variants. PLOS Genetics.
4. **Kim, N.H.**, Ling, H.Y., Xie, Z. & van de Panne, M.. (2021). Flexible Motion Optimization with Modulated Assistive Forces. In Proc. ACM Transactions on Graphics and Interactive Techniques (SCA 2021).
3. Xie, Z, Ling, H.Y., **Kim, N.H.**, & van de Panne, M.. (2020). ALLSTEPS: Curriculum-driven Learning of Stepping Stone Skills. In Proc. ACM SIGGRAPH / Eurographics Symposium on Computer Animation.

Best Paper Award

2. **Kim, N.H.**, Xie, Z. & van de Panne, M.. (2020). Learning to Correspond Dynamical Systems. Proceedings of the 2nd Conference on Learning for Dynamics and Control, in Proc. Machine Learning Research 120:105-117

Oral Presentation (Top 14 Papers of 131 Submissions)

1. Ng, B., **Kim, N.H.**, Thirion, B., Poline, J., Greicius, M., Mostafavi, S., & IMAGEN Consortium. (2018). Associating IQ to Brain Networks with Manifold Regression. 2018 Organization for Human Brain Mapping Annual Meeting. (Peer-Reviewed by Abstract)

Honors & Awards

NSERC Canada Graduate Scholarship-Doctoral Program CAD 35,000/yr award to promote continued excellence in Canadian research; converted to PGS-D for study-abroad (CAD 21,000/yr)	2022
Finnish Center for AI (FCAI) Open Application Program-Doctoral Funding Full 4-year funding provided to exceptional doctoral students interested in tackling challenges in machine learning and in artificial intelligence	2021
UBC Department of Computer Science Graduate Teaching Assistant Award Awarded to graduate teaching assistants recommended by faculty and students for excellent teaching efforts.	2021
NSERC Canada Graduate Scholarship-Master's Program CAD 17,500 award for students who demonstrate a high standard of achievement in undergraduate and early graduate studies	2020
UBC Department of Computer Science Academic Award of Excellence (Combined Majors) Awarded to the individual graduating with the highest academic average in combined major program	2019
NSERC Undergraduate Student Research Award Canadian federal fellowships to support academic research as an undergraduate student	2017
UBC Science Scholar / Dean's Honour List Awarded to full-time students with winter session GPA above 90%	2017, 2019
Rice University Undergraduate Research Assistantship Rice University's research award to support students pursuing research projects outside their core curriculum	2016
Rice University President's Honor Roll Awarded to students in top 25% GPA percentile (above 3.882)	2015

Teaching Experience

Tutor: CS-E4000/E4875 "Research Seminar in Computer Science" - Aalto University Student supervision via weekly project meetings and personalized lectures. Master's-level independent literature review and research course. 4 students conferred, 3 ongoing. Sessions taught: 2022, 2023, 2024.	2022-2024
Co-Instructor: DOM-E5129 "Intelligent Computational Media" - Aalto University Lectures, assignments, student supervision. Graduate-level applied AI course for art and games. Sessions taught: 2022T3, 2024T3.	2022, 2024
Lecturer: CPSC 340 "Machine Learning and Data Mining" - UBC Sessional lectureship, teaching UBC's main undergraduate-level machine learning course. 3rd-year level, 160 students, 10 TAs. Sessions taught: 2021S.	2021
TA: CPSC 440/540 "Advanced Machine Learning" - UBC Teaching Assistant for the graduate level machine learning course, taught by Prof. Mark Schmidt. Sessions taught: 2020W2.	2021
TA: CPSC 330 "Applied Machine Learning" - UBC Teaching Assistant for the pilot session of the applied machine learning course, taught by Prof. Mike Gelbart. Sessions taught: 2019W2.	2020

TA: CPSC 340 “Machine Learning and Data Mining” - UBC

2018-2019

Teaching Assistant for UBC’s main undergraduate-level machine learning course, taught by Prof. Mark Schmidt, Prof. Frank Wood, and Prof. Mike Gelbart. Responsible for running tutorials, holding office hours, and grading assignments/exams. Sessions taught: 2018W1, 2018W2, 2019W1

Positions & Appointments Held

Research Group Leader - Embodied Intelligence*Helsinki, Finland*

AALTO UNIVERSITY

Sep. 2023 - PRESENT

- Established Team ARAM - Laboratory for Animation, Robotics, and Machine Learning, enabling peer-to-peer research advising and collaboration with managerial best practices
- Lead and organize weekly meetings, provide hands-on project supervision and mentorship, recruit thesis and seminar students
- Supervised 1 MSc thesis, with distinction (Grade 5)

R&D Scientist Intern - Character Animation, Foundation Models*Helsinki, Finland*

UBISOFT LA FORGE / REDLYNX

Feb. 2023 - Feb. 2024

- Developed reinforcement learning algorithms to enable a rapid motion prototyping system for non-humanoid 3D characters
- Investigated general-purpose use of LoRA-adapted LLMs for goal-driven character control

Lecturer - Computer Science*Vancouver, BC*

UNIVERSITY OF BRITISH COLUMBIA

May 2021 - Jun. 2021

- CAD 15,000 sessional lectureship for CPSC 340: Machine Learning and Data Mining for the 2021S term.
- Carried out teaching duties in full, including lectures, assignments, exams, and administration.

Applied Scientist Intern - Machine Learning*Vancouver, BC*

AMAZON WEB SERVICES, AMAZON.COM, INC.

May 2020 - Aug. 2020

- Implemented and benchmarked active learning workflow for pedestrian detection by integrating OpenMMLab into AWS SageMaker

Software Development Engineer Intern*Vancouver, BC*

AMAZON WEB SERVICES, AMAZON.COM, INC.

May 2018 - Aug. 2018

- Optimized RDS Oracle’s point-in-time restore feature by leveraging dynamic size batch submission algorithm
- Achieved six-fold increase in average throughput from improved feature
- Received full-time return offer

Research Assistant - Bioinformatics*Vancouver, BC*

UBC CENTRE FOR MOLECULAR MEDICINE AND THERAPEUTICS

Sep. 2017 - Apr. 2018

- Mentored by Prof. Sara Mostafavi and Dr. Bernard Ng. Funded by NSERC Undergraduate Research Award
- Designed parametric testing methods for non-Euclidean statistical models associating genotypes with brain co-activations
- Implemented large-scale data preprocessing and imputation pipeline involving denoising, alignment, distance mapping, and compression of genetic data

Software Development Engineer Intern*Vancouver, BC*

DELIVERY EXPERIENCE, AMAZON.COM, INC.

Jun. 2017 - Aug. 2017

- Designed and implemented internal editing tool and abstraction logic for customizing and localizing Delivery Benefit Programs in accordance with company directives
- Completed required deliverables and bonus features and deployed product to Amazon’s official development platform
- Received return offer for May 2018

Research Assistant - Bioinformatics

Houston, TX

BAYLOR COLLEGE OF MEDICINE CENTER FOR GENOME ARCHITECTURE

Jan. 2016 - Apr. 2016

- Mentored by Prof. Erez Lieberman Aiden
- Developed visualization components of DNA sequencing quality control pipeline to detect physical artifacts in Illumina sequencing experiments

Research Assistant - HCI

Houston, TX

RICE UNIVERSITY COMPUTER SECURITY LAB

Jan. 2016 - Apr. 2016

- Mentored by Prof. Dan Wallach and Prof. Philip Kortum. Stipend-based Research Assistantship
- Designed, built, and tested the second generation model of STAR-Vote involving sheet-feeding mechanism, audio alert system, barcode detection, and graphical user interface

Frontend Developer Intern

Houston, TX

MEDICAL INFORMATICS CORP

May. 2013 - Aug. 2013

- Medical application / healthcare data management software startup
- Built JavaScript product prototype for live patient monitoring modules for product pitch in startup partnership and sponsorship meetings
- Received return offer

Additional Positions and Activities

Technical Paper Reviewer

N/A

SIGGRAPH, EUROGRAPHICS

2022 - PRESENT

- Technical paper program reviewer in character animation and motion control
- Submissions reviewed: Eurographics 2022, SIGGRAPH 2024

Musical Worship Leader

Vancouver, BC

TAPESTRY CHURCH AT MARPOLE

2017 - 2019

- Led congregation and band on Sundays for worship portion
- Coordinated with pastoral staff and organizes practices
- Performed at UBC Chan Centre for Tapestry Church's 13th anniversary service

Peer Advisor & Young Adult Group Leader

Vancouver, BC

TAPESTRY CHURCH AT MARPOLE

2017 - 2020

- Led Tapestry Church's small group for bible study and fellowship, meeting every week involving 10 to 15 adult members
- Coordinated gathering details and preparing discussion materials

Musical Worship Leader

Vancouver, BC

TAPESTRY CHURCH AT MARPOLE

2017 - 2019

- Led congregation and band on Sundays for worship portion
- Coordinated with pastoral staff and organizes practices
- Performed at UBC Chan Centre for Tapestry Church's 13th anniversary service

Athlete & Competition Announcer

Vancouver, BC

UBC WEIGHTLIFTING AND POWERLIFTING CLUB

2016 - 2019

- Competed in 83kg Men's Open category in British Columbia Powerlifting Association (BCPA)
- Announced and facilitated for annual BCPA championships at UBC

Conference Staff

Seoul, Republic of Korea

IEEE INTELLIGENT VEHICLES SYMPOSIUM

2015

- Facilitated 5-day conference providing interpretation and technical support

Ministry of National Defense Linguist (Sergeant, E-5)

Seoul, Republic of Korea

REPUBLIC OF KOREA ARMY

2013 - 2015

- 21 months of mandatory military service. Squad leader for linguists and interpreters.
- English-Korean translation and interpretation duties involving communications and computing devices for the United States Forces Korea.

Actor/Singer/Ensemble Member

Houston, TX

RICE UNIVERSITY MUSICAL THEATRE

2012, 2013, 2015

- Participated in the production of: The Drowsy Chaperone (2012), The Producers (2013), and theatrical adoption of Black Mirror (2015)

Selected Media Coverage

Why Teach An AI To Climb Stepping Stones? - Two Minute Papers 2021
<https://www.youtube.com/watch?v=ZZ-kORb8grA>

Every Step They Took led to SCA Best Paper Award - University of British Columbia 2021
<https://www.cs.ubc.ca/news/2021/01/every-step-they-took-led-sca-best-paper-award>

Researchers Develop Hard-to-Hack Voting Machine - Voice of America 2016
<https://www.voanews.com/usa/us-politics/researchers-develop-hard-hack-voting-machine>