Aram Kim, Ph.D., PT

Curriculum Vitae

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CURRENT POSITION

Assistant Professor 2025 – Present
School of Exercise and Nutritional Sciences
College of Health and Human Services
San Diego State University, San Diego, CA

EDUCATION & FELLOWSHIP

Postdoctoral Research Fellow 2021 – 2025
Department of Biomedical Engineering, Johns Hopkins School of Medicine,
Center for Movement Studies, Kennedy Krieger Institute, Baltimore, MD
- Specializes in Effort-based Decision-Making, fMRI, and Fatigue
- Supervisor: Dr. Vikram S. Chib

Doctor of Philosophy in Biokinesiology 2016 – 2021
University of Southern California, Los Angeles, CA
- Dissertation title: "*Locomotor skill learning in virtual reality in healthy adults and people with Parkinson disease*"
- Specializes in Motor control/learning, Virtual Reality, Computational Neuroscience, Clinical Assessments, Biomechanics, Hierarchical Bayesian Modeling
- Advisor: Dr. James M. Finley

Master of Science in Biokinesiology 2014 – 2016
University of Southern California, Los Angeles, CA
- Thesis topic: *"Walking in fully immersive virtual environments: An evaluation of potential adverse effects in older adults and individuals with Parkinson's disease"*
- Advisor: Dr. James M. Finley

Bachelor of Science in Physical Therapy 2008 – 2013
Daegu Catholic University, Daegu, South Korea
- Thesis title: "*The Influence of Smartphone Use During Gait on Young Adults*"

GRANTS, AWARDS & SCHOLARSHIPS

Society for NeuroEconomics Travel Award ($500) 2022
Society for NeuroEconomics

Biokinesiology Student Travel Grant ($1000) 2019

Selective award to attend the Organization for Human Brain Mapping
Division of Biokinesiology and Physical Therapy, USC

NSF Travel Grant for Progress in Clinical Motor Control ($500) 2018
National Science Foundation

Link Foundation Fellowship in Modeling, Simulation, and Training 2018-2019
($29,000)
Link Foundation

VRSC Student Festival Prize 2nd Place 2018
Walkabout: immersive walking intervention for people with Parkinson's disease
Immersive Technology Student Organization at USC and Microsoft, USC, Los Angeles, California.

Biokinesiology Student Award 1st Place 2018
Learning and generalization of an obstacle negotiation task in virtual reality
Dentistry Research Day, USC, Los Angeles, California.

USC GSG Travel Grant ($500 each year) 2016- 2017
USC

Foreign Language Scholarship ($4,000) 2012
Daegu Catholic University

PUBLICATIONS

Manuscripts in preparation

Casamento-Moran A, Lee JL, **Kim A**, Quigley K, Azola A, Malone L, Chib VS. *Behavioral and neuromuscular characterization of fatigue in long COVID.*

Kim A and Chib VS. *Cognitive fatigue inflates value of risky effort exertion through the ventromedial prefrontal cortex*.

Casamento-Moran A, **Kim A**, Chib VS. *Fatigue reflects an affective response to dyshomeostasis and is part of an allostatic strategy that aims to regain homeostasis.*

Venkadesh S, Shakeri H, Waugh RE, Donahue EK, **Kim A**, Litvan I, Petkus AJ, O'Neill J, Jakowec MW, Schiehser DM, Petzinger GM, Van Horn JD. *Spatiotemporal Patterns of resting-state blood-oxygen-level-dependent signal coherence associated with mild cognitive impairment in Parkinson's disease.*

Manuscript under review

Klein AR, Hong SH, **Kim A**, Chib VS, Manohar SG, Husain M, Gold, JM, Culbreth AJ. *Examining Effects of Effort and Reward Magnitude on Effort-Cost Decision-Making in People with Major Depressive Disorder*. PsyArXiv; doi: 10.31234/osf.io/368qc_v1

Kim A and Chib VS. *Neural substrates underlying the expectation of rewards resulting from effortful exertion*. bioRxiv 2024.02.01.578411; doi: 10.1101/2024.02.01.578411

Published peer-reviewed manuscripts

Petkus AJ, Foreman RP, Pilgrim M, **Kim A**, Honga E, Fisher BE, Van Horn JD, Wing D, Jakowec MW, Schiehser DM, and Petzinger GM. *Longitudinal Associations Between Physical Performance and Cognition in Individuals with Parkinson's Disease*. Clin Park Relat Disord. 2025 Jul 17; 13:100370. doi: 10.1016/j.prdoa.2025.100370.

Kim A, Schweighofer N, Petzinger GM, Finley JM. *Uncovering locomotor learning dynamics in people with Parkinson's Disease.* PLoS One 2025 June; 20(7):e0326692. doi: 10.1371/journal.pone.0326692*.*

Padmanabhan P, Casamento-Moran A, **Kim A**, Gonzalez AJ, Pantelyat A, Roemmich RT, Chib VS. *Dopamine facilitates the translation of physical exertion into assessments of effort.* NPJ Parkinsons Dis. 2023 Apr 1;9(1):51. doi: 10.1038/s41531-023-00490-4.

Chung YC, Fisher BE, Finley JM, **Kim A**, Petkus AJ, Schiehser DM, Jakowec MW, Petzinger GM. *Cognition and motor learning in a Parkinson's disease cohort: importance of recall in episodic memory*. Neuroreport. 2021 Oct 6;32(14):1153-1160. doi: 10.1097/WNR.0000000000001707.

Finley JM, Gotsis M, Lympouridis V, Jain S, **Kim A**, Fisher BE. *Design and Development of a Virtual Reality-Based Mobility Training Game for People With Parkinson's Disease.* Front Neurol. 2021 Jan 15;11:577713. doi: 10.3389/fneur.2020.577713.

Kim A, Schweighofer N, Finley JM. *Locomotor skill acquisition in virtual reality shows sustained transfer to the real world.* J Neuroeng Rehabil. 2019 Sep 14;16(1):113. doi: 10.1186/s12984-019-0584-y.

Kim A, Kretch KS, Zhou Z, Finley JM. *The quality of visual information about the lower extremities influences visuomotor coordination during virtual obstacle negotiation.* J Neurophysiol. 2018 Aug 1;120(2):839-847. doi: 10.1152/jn.00931.2017. [Highlighted on Journal of Neurophysiology Social Media]

Kim A, Zhou Z, Kretch KS, Finley JM. *Manipulating the fidelity of lower extremity visual feedback to identify obstacle negotiation strategies in immersive virtual reality.* Annu Int Conf IEEE Eng Med Biol Soc. 2017 Jul;2017:4491-4494. doi: 10.1109/EMBC.2017.8037854.

Kim A, Darakjian N, Finley JM. *Walking in fully immersive virtual environments: an evaluation of potential adverse effects in older adults and individuals with Parkinson's disease.* J Neuroeng Rehabil. 2017 Feb 21;14(1):16. doi: 10.1186/s12984-017-0225-2 [Featured in the Neurology Section of the American Physical Therapy Association]

PRESENTATIONS

Conference Podium Presentations

Aram Kim and Vikram S. Chib. *Neural mechanisms underlying the expectation of rewards resulting from effortful exertion*. Society for NeuroEconomics. Arlington, VA, USA. September 2022

Aram Kim, Zixuan Zhou, Kari S. Kretch, and James M. Finley. *Manipulating the fidelity of lower extremity visual feedback to identify obstacle negotiation strategies in immersive virtual reality.* IEEE EMBC 2017, Seoqwipo, South Korea. July 2017

Conference Poster Presentations

Aram Kim and Vikram S. Chib. *Determinants of expectation-based effort preferences*. Society for Neuroscience. Chicago, USA. October 2024

Aram Kim and Vikram S. Chib. *Neural mechanisms underlying wage expectation-based effort provision*. Society for Neuroscience. Washington DC, USA. November 2023

Aram Kim and Vikram S. Chib. *Neural mechanisms underlying the expectation of rewards resulting from effortful exertion*. Society for Neuroscience. San Diego, CA, USA. November 2022

Aram Kim, Beth E. Fisher, Giselle Petzinger, Andrew Petkus, and James M. Finley. *Clinical assessments of memory explain individual differences in locomotor learning in people with Parkinson disease.* CSM APTA, Online. February 2021

Aram Kim, Giselle Petzinger, and James M. Finley. *Influence of environmental context on locomotor skill learning in virtual reality in people with Parkinson's disease.* International Society of Gait and Posture Research, Edinburgh, Scotland, UK, July 2019

Aram Kim, Nicolas Schweighofer, and James M. Finley. *Predicting retention of locomotor skill learning in virtual reality and subsequent transfer to over-ground walking*. Progress in Clinical Motor Control, State College, PA, USA. July 2018

Aram Kim and James M. Finley. *Learning and generalization of an obstacle negotiation task in virtual reality*. Dentistry Research day, University of Southern California, Los Angeles, California. April 2018

Aram Kim and James M. Finley. *Learning and generalization of a novel obstacle negotiation task acquired in immersive virtual reality*. Society for Neuroscience, Washington, DC. November 2017

Aram Kim, Zixuan Zhou, Kari S. Kretch, and James M. Finley. *Lower extremity visual feedback influences obstacle negotiation strategies in VR.* Jacquelin Perry Research Day, Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, California, April 2017

Aram Kim, Nora Darakjian, James M. Finley. *Immersive virtual reality using a low cost head-mounted display: A feasibility test for individuals with Parkinson's disease.* Jacquelin Perry Research Day, Division of Biokinesiology and Physical Therapy, University of Southern California, Los Angeles, California, April 2016

Aram Kim, Nora Darakjian, James M. Finley. *Immersive virtual reality using a low cost head-mounted display: A feasibility test for individuals with Parkinson's disease.* CSM APTA, Anaheim, California. February 2016

Aram Kim, Nora Darakjian, James M. Finley. *Feasibility of immersive virtual reality for individuals with Parkinson's disease.* Dentistry Research day, University of Southern California, Los Angeles, California. March 2015

Invited Poster Presentations

Aram Kim, Beth E. Fisher, Giselle Petzinger, Andrew Petkus, and James M. Finley. *Clinical assessments of memory explain individual differences in locomotor learning in people with Parkinson disease.* California Physical Therapy Association Conference, Online. October 2021

TEACHING EXPERIENCE

Instructor
School of Exercise and Nutritional Sciences, SDSU, CA
- ENS 303 Applied Kinesiology (2025 Fall)

Teaching Assistant at USC
Division of Biokinesiology and Physical Therapy, USC, CA
- PT546 Neuropathology (2020 – 2021 Spring)
- BKN553 Experimental Methods for the Analysis of Human Movement (2019 – 2020 Fall)
- BKN551 Musculoskeletal and Biomechanical Basis of Movement (2020 Fall)
- PT534L Neuroanatomy (2016 Fall)

ACADEMIC SERVICES

Ad hoc Reviewer

Transactions on Neural Systems & Rehabilitation Engineering (TNSRE)
Virtual Reality
European Journal of Neuroscience
Journal of NeuroEngineering and Rehabilitation (JNER)
Archives of Physical Medicine and Rehabilitation (ACRM)
Physiotherapy
Scientific Reports
Journal of Applied Biomechanics
Games for Health
Dynamic Walking Abstracts
RehabWeek Abstracts
International Conference on Virtual Rehabilitation Abstracts

Other academic services

MD/PhD Essay Reviewer 2024
Office of Pre-Professional Advising, Johns Hopkins University

Teaching Assistant 2020
GitHub for Versioning Tutorial, Annual meeting of American Society of Biomechanics

Organizer 2018-2019
NeuroRehabilitation Seminar Series

Research mentoring and advising

SDSU:
Undergraduate students
Marcus Garcia, Kinesiology
Lauren Salt, Kinesiology
Katerina Senn, Kinesiology
Jahir Martines, Kinesiology

Johns Hopkins:
Graduate students
Soobin Hong, PhD student in Neuroscience
Vivian Looi, PhD student in Biomedical Engineering
Yixuan Wang, PhD student in Biomedical Engineering
Joonhee Leo Lee, PhD student in Biomedical Engineering
Undergraduate students
Rhys Gough, Neuroscience
Noah Cyr, Biology, Denison University

USC:
High school intern
Cole Schroeder

LEADERSHIP AND SERVICE

Volunteer 2024
Baltimore Brainfest to foster public interest in neuroscience research
Organizer: Project Bridge

Instructor 2018 – 2019
Kinesiology: Moving Minds and Bodies through Sports, Medicine, and Health (CORE-195), USC Summer Program 2019
Course Director: Christina Dieli-Conwright, PhD, MPH, FACSM, CSCS

Representative of Neurorehabilitation labs 2019
Biokinesiology Student Body Council, USC

Instructor 2018
STEMM Goes Red, American Heart Association
Program Mentor: Natalia Sánchez, PhD

Student Physical Therapist 2009
Ansim Social Welfare Center, Daegu, South Korea

Student Vice President 2009 – 2010
Physical Therapy Department, Catholic University of Daegu, Daegu, South Korea

Student Physical Therapist 2008
Daegu Special Athletics League, Daegu, South Korea

Student Physical Therapist 2008
Daegu Catholic Alzheimer Center, Daegu, South Korea

CLINICAL EXPERIENCE

Student Physical Therapist

- Kangbuk Samsung hospital, Seoul, South Korea (Summer 2012)
  - In-patient intensive care, specializing in stroke and Parkinson's disease
- Doctorgood Rehabilitation Clinic, Daegu, South Korea (Spring 2012)
  - sports physical therapy and pediatrics physical therapy units

LICENSURE, CERTIFICATION, AND MEMBERSHIPS

Member 2017 - Present
Society for Neuroscience

Research Mentor Training 2024
The Center for the Integration of Research Teaching and Learning

Johns Hopkins Teaching Institute 2022
Johns Hopkins University Teaching Academy

Physical Therapist [#PTL.0016835] 2020
Colorado Department of Regulatory Agencies, USA

Statistical Learning 2018
Stanford Online

MDS-UPDRS Certificate 2015
International Parkinson and Movement Disorder Society

Physical Therapist [#47536] 2013
Ministry of Health and Welfare, South Korea