## Ali Kargarandehkordi

Ph.D. Student Researcher, Data Analyst/AI Engineer, Full-stack Developer, Computer Engineer
kargaran@hawaii.edu
Personal webpage and portfolio: https://aliknd.github.io/
GitHub (https://github.com/aliknd)
Google Scholar: (https://scholar.google.com/citations?user=GSTYzrIAAAAJ&hl=en)
LinkedIn (https://www.linkedin.com/in/ali-kargaran-dehkordi-b11b0185/?originalSubdomain=fi)
PubMed: https://pubmed.ncbi.nlm.nih.gov/?term=ali+kargarandehkordi


## Education

- ***Ph.D. Degree in Computer Science***
  *University of Hawai'i at Mānoa, Honolulu, HI, United States*
  *Aug. 2023 –*
  *GPA: 4/4*
- ***Master's Degree in Information and Communication Technology***
  *University of Turku, Turku, Finland*
  *Aug. 2021 – Aug. 2023*
- ***Master's Degree in Computer Engineering***
  *Khatam University, Tehran, Iran*
  *Sep. 2014 – Jan. 2017*
- ***Bachelor's Degree in Electrical Engineering***
  *Sep. 2009 – June 2013*

## Work Experiences

- ***Research and Teaching Assistant***
  *Aug 2021 –*
- ***Full-stack Developer at B.B. Farham Engineering***
  *Jan 2015 – Aug 2021*
  Job Duties:
  1) Design and development of web-based applications, servers, and databases
  2) Coding and designing user interactions, and different functionalities
  3) Research and Assist in the data analysis, design, and implementation of AI solutions, automated systems, and data communication hardware/software
  4) Lead and co-ordinate teams of engineers, technologists, technicians, and drafters in the design and development of different projects.
- ***Electrical/Computer Engineer at Adelpeyman Co.***
  *May 2013 – Oct. 2014*
  Job Duties:
  1) Develop, maintenance and operating standards for electrical, electronic systems and equipment
  2) The investigation of failures in electrical or electronic systems
  3) Research, design and develop information and communication system's architecture

## Scholarships and Awards

- ***Outstanding Performance Scholarship at the University of Turku (UTU)***
  *2nd year scholarship covering the entire tuition fee for outstanding performance in the 1st year (€12000)*
- ***Best Teacher of the Year at Net Gostar-e Mahan Co. Shahrekord, Iran***

*Teacher & Instructor at Extensive Web Development Programs*

## Leadership

- ***Personalized Prediction of Stress-Induced Blood Pressure Spikes in Real Time from FitBit Data using Artificial Intelligence***
  *Role: Study Lead*
  *https://pubmed.ncbi.nlm.nih.gov/38526539/*
- ***Development of Smart Shelf Project - Valmet Automotive EV Power Oy – Finland***
  *Role: Project Leader, Back-end Developer*
  *https://capstone.utu.fi/en-smart-shelf*

## Mentorship and Advising

- ***Mentorship of Undergraduate Students in ICS 496 (Capstone Projects) - University of Hawaii at Manoa***
  *Carol Wong,*
  *Kailee Hung,*
  *Kristyn Mimura,*
  *Audrey Soares,*
  *ZhiXin Li*

## Projects & Industry Experiences

- ***STAND*** *– Gamified Mobile-based Video Data Collection Tool to Screen Stress and Anxiety (https://aliknd.github.io/projects/2023-01-15-project-number-6/)*
- ***BanAware*** *– Mobile-based EMA Data Collection Tool to Screen Substance Use (https://aliknd.github.io/projects/2023-11-01-project-number-2/)*
- ***CardioMate*** *– Mobile-based EMA Data Collection Tool to Screen Stress Induced Hypertention (https://aliknd.github.io/projects/2024-02-15-project-number-1/)*
- ***LabelLab*** *– Mobile-based Crowdsourcing and Data Collection Tool (https://aliknd.github.io/projects/2023-10-01-project-number-3/)*
- ***TikTokActions Video Dataset Website*** *(https://tiktokactions.hawaiidigitalhealthlab.com/)*
- *Full Implementation of Health and Fitness Tracking Devices' APIs*
- *Back-end Development of Smart Shelf Project - Valmet Automotive EV Power Oy – Finland*
- *ShahrakSanati Financial Application (full description available in my Github)*

## Publications

- ***Kargarandehkordi, A.****, Kaisti, M., & Washington, P. (2024). Personalization of Affective Models Using Classical Machine Learning: A Feasibility Study. Applied Sciences, 14(4), 1337.*
- ***Kargarandehkordi, A.,*** *Slade, C., & Washington, P. (2024). Personalized AI-Driven Real-Time Models to Predict Stress-Induced Blood Pressure Spikes Using Wearable Devices: Proposal for a Prospective Cohort Study. JMIR Research Protocols, 13(1), e55615.*
- *Sun, Y.,* ***Kargarandehkordi, A.****, Slade, C., Jaiswal, A., Busch, G., Guerrero, A., ... & Washington, P. (2024). Personalized Deep Learning for Substance Use in Hawaii: Protocol for a Passive Sensing and Ecological Momentary Assessment Study. JMIR Research Protocols, 13(1), e46493.*
- ***Kargarandehkordi, A****., Kaisti, M., & Washington, P. (2023). Personalization of Affective Models to Enable Neuropsychiatric Digital Precision Health Interventions: A Feasibility Study. arXiv preprint arXiv:2311.12812.*
- ***Kargarandehkordi, A****., & Washington, P. (2023). Personalized Prediction of Stress-Induced Blood Pressure Spikes in Real Time from FitBit Data using Artificial Intelligence: A Research Protocol. medRxiv, 2023-12.*
- ***Kargarandehkordi, A.,*** *& Washington, P. (2023). Computer Vision Estimation of Stress and Anxiety Using a Gamified Mobile-based Ecological Momentary Assessment and Deep Learning: Research Protocol. medRxiv, 2023-04.*

- *Qian, Yang, **Ali Kargarandehkordi**, Onur Cezmi Mutlu, Saimourya Surabhi, Mohammadmahdi Honarmand, Dennis Paul Wall, and Peter Washington. "Computer Vision Estimation of Emotion Reaction Intensity in the Wild." arXiv preprint arXiv:2303.10741 (2023).*
- *Qian, Y., Sun, Y., **Kargarandehkordi, A.,** Mutlu, O. C., Surabhi, S., Chen, P., ... & Washington, P. (2024). TikTokActions: A TikTok-Derived Video Dataset for Human Action Recognition. arXiv preprint arXiv:2402.08875.*
- *Azimian, Alireza, **Ali Kargaran Dehkordi**, and Mohammad Tehrani. "A novel systolic array architecture for matrix multiplication circuit design using carbon nanotube technology." Int. J. of Computer Applications 172, no. 6 (2017): 1-4.*
- ***Dehkordi, Ali Kargaran**, Ali Bozorgmehr, and Keivan Navi. "High speed, low power and approximated current mode XOR in secure image applications based on CNT." In 2017 19th International Symposium on Computer Architecture and Digital Systems (CADS), pp. 1-4. IEEE, 2017.*
- ***Dehkordi, Ali Kargaran**, Shirin Kouhi Habibi, Alireza Azimian, and Kasra Sharafodin. "A Novel Ultra High-Speed Chaotic Method For Image Encryption and Decryption Based On Carbon Nanotube Technology." International Journal of Computer Science and Information Security 14, no. 9 (2016): 1122.*

## Paper peer review (with Dr. Peter Washington)

- ***CHI 2024***
- ***ICML workshops***

## Skills

- ***Full-stack Development***
  *1) Back-end (PHP – Laravel), (Python – Django), alongside TypeScript, Node.js, and experienced with various databases (MySQL, SQLite, PostgreSQL etc.)*
  *2) Front-end (ReactJS/ReactNative/Vue.js/Bootstrap)*
  *3) DevOps (AWS, Git, Docker)*
  *4) WordPress/WooCommerce Development*
- ***AI, Machine Learning & Robotic***
  *1) Data Analytics (Data Preparation, Feature Selection & Extraction, Model Selection & Evaluation, Validation Techniques)*
  *2) Computer Vision, Deep Learning, Robotic*
  *3) Python Programming and Development*
- ***Other IT Skills***
  *1) Project Management (Smart Shelf – Valmet Automotive)*
  *2) HDL/HSPICE/VLSI Circuit Design*
  *3) Networking/Windows Server*
  *4) Adobe Photoshop, Microsoft Office*

## References

- ***Peter Yiğitcan Washington***
  *Assistant Professor, University of Hawai'i at Mānoa, United States*
  *Contact email: pyw@hawaii.edu*
- ***Dennis Paul Wall***
  *Professor, Stanford University, United States*
  *Contact email: dpwall@stanford.edu*
- ***Roberto Martin Benzo***
  *Assistant Professor, Ohio State University, United States*
  *Contact email: Roberto.Benzo@osumc.edu*
- ***Matti Kaisti***

*Assistant Professor, University of Turku, Finland*
*Contact email: mkaist@utu.fi*

- ***Mohammad Eshghi***
  *Professor, Shahid Beheshti University, Iran*
  *Contact email: M-Eshghi@sbu.ac.ir*
- ***Mohammad Tehrani***
  *Assistant Professor at Computer Engineering Dept., Khatam University, Iran*
  *Contact info: m.tehrani@khatam.ac.ir*