Kyung Myung Ko

[US Permanent Resident]

ko112@uw.edu | Google Scholar | Github | LinkedIn | Website

EDUCATION

University of Washington Present
Master of Science in Electrical and Computer Engineering

Purdue University 2025
Bachelor of Science in Computer Science and Artificial Intelligence

- Computer Vision with Deep Learning, Signals and Systems, The Data Science Labs on Signals and Systems/Fourier Analysis, Natural Language Processing Security Analytics, Intro to Robotics, Data Mining & Machine Learning

EXPERIENCE

Research Intern, *National Institute of Astrophysics, Optics and Electronics, Mexico* Jun 2024 - Aug 2024
Advisor: Dr. Manuel Montes-y-Gómez, Dr. Thamar Solorio

- Cleaned and proposed new data collection pipeline for the multimodal hate speech and text dataset MuTox.
- Trained the proposed model from scratch with the new dataset and evaluated with accuracy and AUC metrics.
- Attended NAACL 2024 oral, poster, and workshop sessions, stayed relevant with the state-of-the-art NLP research.

Research Intern, *Purdue University, West Lafayette IN* May 2023 - Oct 2023
Advisor: Dr. James Davis

- Contributed to the experimental design section of research paper, reviewed and published to IEEE S&P'24.
- Developed scripts to aggregate PGP signatures on Maven Central repository and analyzed their qualities.
- Addressed the gap in understanding factors that influence signing adoption to ensure reliability of software packages.

Data Processing Manager, *Republic of Korea Army, South Korea* Sep 2021 - Mar 2023

- Operated the Army Tactical Command Information System and performed backup to ensure the system security.
- Tracked IP addresses of operational machines and compiled weekly reports of their privacy status.
- Installed and managed networked surveillance cameras around the unit and ensured their reliable streaming 24/7.

Research Intern, *Northwestern University, Remote* Jun 2021 - Aug 2021
Advisor: Dr. Marcelo Worsley

- Designed the data collection process to obtain EEG data with Muse S wearable and muse-lsl package.
- Developed real-time pipeline with trained models to convert classified mental states to keyboard input (Code).
- Addressed the gap in learning opportunities for the youth players with mobility challenges through BCI for Minecraft.

Caterpillar Corporate Partner Researcher, *The Data Mine at Purdue, West Lafayette IN* Aug 2020 - May 2021
Advisor: Sridhar Ramaswamy

- Addressed the missing data problem of the mining truck through time-series data imputation.
- Applied adversarial training algorithm for regression on the multivariate time series data, evaluated the performance with L1 & L2 loss, and presented a poster at the virtual symposium. (Poster),(Code).

PUBLICATION/PREPRINT/PROJECT REPORT

* Multimodal Hate Speech Detection in Multilingual Setting
Kyung Myung Ko, Manuel Montes-y-Gómez
Project Report, 2025

* Signing in Four Public Software Package Registries: Quantity, Quality, and Influencing Factors
Taylor R Schorlemmer, Kelechi G Kalu, Luke Chigges, **Kyung Myung Ko**, Eman Abdul-Muhd Abu Isghair, Saurabh Baghi, Santiago Torres-Arias, James C Davis
Proceedings of the 45th IEEE Symposium on Security and Privacy (S&P) 2024.

* Increasing Accessibility for Game-based Learning Experiences: Developing Brain Computer Interface Controls for Minecraft
Andy Ko, Vishesh Kumar, Marcelo Worsley
Preprint, 2024

* Evaluating Video Frame Interpolation and Audio Guidance Models With Distanced Frame Inputs
Kyung Myung Ko
Project Report, 2024

* Audio-Visual Agreement for Audio-Visual Question Answering
Kyung Myung Ko
Project Report, 2024

TEACHING ASSISTANT & SERVICES

Teaching

Data Structures And Algorithms For DS/AI **SP25**, Purdue University

- Established grading rubric for homework assignments on Gradescope.
- Performed testing on the projects in Vocareum to ensure appropriateness.
- Held weekly office hours and answered EdStem questions to assist students in the coursework.
- Participated in weekly instructor meetings to address students' concerns and proposed solutions to mitigate with the instructor team.

Problem Solving And Object-Oriented Programming **SP25, SP24, FA23**, Purdue University

- Led laboratory sessions and assisted students to accomplish the weekly assignments.
- Held weekly office hours to assist introductory student in CS/DS/AI majors in the curriculum.

Service

Purdue Korean Association Recruiting Manager **2023-2024**, Purdue University

- Bridged the connection between Korean companies and the students at Purdue by managing the visitation from the corporations, publishing email announcements, and editing posts on the website.
- Assisted planning and setting up cultural events and ceremonies for students at Purdue.

Hello World Hackathon Mentor **2020**, Purdue University

- Assisted the participants in the annual freshmen 24-hour hackathon event by answering questions and providing suggestions to development of ideas, ranked as the #1 mentor to answer the most questions.

Volunteer Assistant Teacher **2015-2016**, Korean Culture & Language School of Oklahoma

- Assisted in logistics and bridged communication between the students and the teachers in Korean language teaching and cultural activities.

AWARDS & HONORS

Awards

CS Department AI Outstanding Student Scholarship **2024**, Purdue University
Austin Coding Academy Scholarship **2018**, Austin Coding Academy
Asia Society of Oklahoma Scholarship **2016**, Asia Society of Oklahoma
Excellence in Junior Leadership Award **2016**, The National Association for Korean Schools

Honors

Dean's List **2019, 2020, 2021, 2023, 2024, 2025**, Purdue University
Excellence in the Annual Headquarters Security Audit **2022**, Republic of Korea Army
Academic Excellence in Telecommunications Military Training School **2021**, Republic of Korea Army

SKILLS

Programming Python, Java, Bash, MATLAB, C, C#, C++, JavaScript, HTML/CSS

Software PyTorch, Torchvision, Torchaudio, Data Distributed Parallel, OpenCV, Librosa, Wandb, AWS, Azure, ASP.NET, Linux, Git, SQL

Hardware Microcontroller, Arduino, Raspberry Pi Pico

Language Native Korean, Intermediate Spanish

CERTIFICATE

NVIDIA NVDIA Deep Learning Institute Certificate

LinkedIn Applied Machine Learning: Algorithms (2019), Applied Machine Learning: Foundations, Neural Networks and Convolutional Neural Networks Essential Training, Building and Deploying Deep Learning Applications with TensorFlow, Learning TensorFlow with JavaScript, Artificial Intelligence for Business Leaders