Na Min An

Artificial Intelligence Researcher
Please contact me via namin0202@gmail.com or +82-10-2673-6972.

SUMMARY

- Accomplished researcher committed to making the world a better place with artificial intelligence. Demonstrates both theoretical and practical knowledge of mathematics for developing human-interpretable vision and language models. Dedicated to personal development by working autonomously and aiming for successful team achievements.

EXPERIENCE

Brain Science Institute, **KIST** (Korea Institute of Science and Technology)
Research Intern, 01/2021 – 02/2022, 10/2022 – 02/2023

- Compared the recognition ability of machines and humans under low-resolution data.
- Built a reinforcement learning-based framework to stimulate human psychophysical tests of prosthetic vision.
- Designed an automation system for detecting edges of fluorescence images and hyperpolarization phenomenon.

Department of Mathematics, **University of Seoul**
Research Intern, 09/2020 – 12/2020

- Classified progressive stages of pulmonary nodules using variations of convolutional and recurrent neural networks.
- Predicted increasing rates of subscribers for ~1k food-related YouTube channels.

Department of Statistics, **University of Seoul**
Project Leader, 09/2020 – 12/2020

- Analyzed the risk factors of Covid-19 for each district of Seoul
- Received the team excellence award and 3rd place (out of > 40) in the big data competition

Multiple Affiliations
Mentor

- Assisted MUAP (Master of Urban Administration and Planning) graduate school students adapt to new environments under the title of **Seoul Friends** (09/2020 – 12/2020)
- Participated in 16 hours of **Dongdaemun District Mentoring Program** to enhance English/math skills for middle/ high school students, respectively (1/2020 – 2/2020, 9/2019 – 12/2019).
- Worked in **Haebub Math Academy** to help elementary to high school students solve challenging math problems three times a week (07/2019 – 08/2019).
- Tour guided foreigners in Seoul and helped various programs hosted by **Funday Korea Networks** to run smoothly (03/2019 – 03/2020).
- Spread Korean culture (e.g., Tae-Kwon-do) and built wells near the primary school for Cambodians with **World Share** staff members (07/11/2018 – 07/20/2018).
- Volunteered to read English books to **Seoul Sanghyeon Elementary School** students every week for 40 hours of after-school program (03/2017 – 06/2017).

EDUCATION

Kim Jaechul Graduate School, **KAIST** (Korea Advanced Institute of Science and Technology)
PhD Candidate, 02/2023 –

- Joined Professor Thorne's explainable factual reasoning lab.

Department of Mathematics, **University of Seoul**
Bachelor of Science, 03/2019 – 02/2022

- Graduated with 1st class honors in the mathematics department (GPA: 4.29/4.5).
- Received academic excellence or mayor's scholarship for every semester.
- Transferred from Kwangwoon University (GPA: 4.44/4.5).

PUBLICATIONS

Working Papers

- **An, N. M.**, Roh, H., Kim, S., Kim, J. H., and Im, M. "Assistive machine learning approaches as an alternative for human psychophysical tests of low-resolution artificial vision," about to be submitted.
- Jung, Y., **An, N. M.**, Baker, B. J.†, and Im, M.† "Visualization of desensitization of retinal ganglion cell responses to repetitive electric stimulation using voltage indicator in both wild-type and *rd10* mice," will be submitted to *Journal of Neural Engineering*.
- A short paper about Large Language Models working with Lee, N., and Thorne, J. will be submitted to *Empirical Methods in Natural Language Processing*.

Conferences

- **An, N. M.**, Roh, H., Kim, S., Kim, J. H., and Im, M. (2023). "Reinforcement learning framework to simulate short-term learning effects of human psychophysical experiments assessing the quality of artificial vision," In *International Joint Conference on Neural Networks,* IJCNN.
- Kim, S., **An, N. M.**, Roh, H., Kim, J. H., and Im, M. (2022). "Human subject gaze tracking and artificial neural network saliency maps during visual recognition of phosphene array face images for artificial vision," In *the 25th Annual Meeting of the Korean Society for Brain Neural Science*. KSBNS.
- **An, N. M.**, Roh. H., Jung, S., Kim, E. J., and Im, M. (2021). "Machine learning can replace human prosthetic vision psychophysical experiment," *In Proc. of the IEEE/43rd Annual International Conferences*. EMBS.
- **An, N. M.**, Roh. H., and Im, M. (2021). "Comparing machine learning methods of phosphene images for artificial vision to replace human psychophysical test," In *the Institute of Electronics and Information Engineers.* IEIE.

Patents

- Im, M., Roh, H., and **An, N. M.** (2022). Artificial vision parameter learning and automating method for improving visual prosthetic systems (US Patent Application No. 18075555).
- Im, M., Roh, H., and **An, N. M.** (2021). Artificial vision expression parameter automation learning system method for improving artificial vision device (Korea Patent Granted No. 0172619).

REFERENCES

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