CHO, SEONGLAE

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EDUCATION

UNIVERSITY COLLEGE LONDON — London, England, United Kingdom
Artificial Intelligence for Sustainable Development MSc — 2024 - Present

YONSEI UNIVERSITY — Seoul, South Korea
Computer Science BE — 2017 - 2024

PUBLICATIONS

- Cho, S., Jang, M., Yeo, J., & Lee, D. (2023). *RTSUM: Relation Triple-based Interpretable Summarization with Multi-level Salience Visualization*. In Proceedings of the **NAACL 2024** System Demonstrations Track. Association for Computational Linguistics. https://arxiv.org/abs/2310.13895
- Cho, S. (2024). *Reversing Transformer to Understand In-context Learning with Phase Change Feature Dimensionality.* Medium. Retrieved from https://medium.com/p/13cbf8a2f984
- Cho, S. (2024). *Superposition Hypothesis for Steering LLM with Sparse Autoencoder.* Medium. Retrieved from https://medium.com/p/c07b74d23e96

EXPERIENCE

KAKAO MOBILITY — Seoul, South Korea
Software Engineer — December 2021 - September 2022

- Achieved OS independence of the library by refactoring a C++ 3D algorithm module to Rust, leveraging Node.js NAPI binding
- Led a 3-person team in developing an app for 3D maps as a part of the Autonomous Driving pointcloud data pipeline

STRYX — Seoul, South Korea
Software Engineer — November 2019 - December 2021

- Reduced build time by 70% and simplified dependency management by merging multiple repositories into a mono-repository
- Downsized the Docker image by 90%, from 2GB to 180MB, by applying multi-stage builds in CI, elevating team productivity

AWARDS

HERMES, 1ST PLACE (£3,000) , HOLISTIC AI HACKATHON (2024) — London, England, United Kingdom
Team Lead — November 2024 – November 2024

- Fine-tuned Sparse AutoEncoder (SAE) for GPT-2 to identify and analyze correlated features addressing biases in AI Safety
- Achieved 90% stereotyped text generation via Steering Vector, matching fine-tuned model performance without training

MBTIGPT, 1ST PLACE (₩3,000,000), YONSEI GENAI COMPETITION (2023) — Seoul, South Korea
Team Lead — September 2023 - January 2024

- Implemented enterprise-level RAG application of AI personality analyzer using Redis, OpenAI API, Node.js and Faiss
- Reduced OpenAI API costs by 30% by prompt optimization, utilizing code from LLM as optimizers' paper

PROJECTS

UNIVERSITY COLLEGE LONDON — London, England, United Kingdom
Neural-land — Sep 2024 – Nov 2024

- Extracted 5,000+ features from Mistral 8b by implementing automated interpretability, utilizing LLM as a Neural Explainer

MCP-Notion — Jan 2025 – Jan 2025

- Built a Model Context Protocol (MCP) server with markdown support, enabling navigation in Anthropic's Claude Desktop

YONSEI UNIVERSITY DATA & LANGUAGE INTELLIGENCE LAB — Seoul, South Korea
ReSRer — September 2023 - January 2024

- Completed Wikipedia-scale indexing 21M Wikipedia passages into a Milvus vector database in 12 hours
- Accelerated LLM training speed using Pytorch's multi-node distributed training FSDP with 4 x RTX3090 with QLoRa

RTSum — March 2023 - August 2023

- Published as the first author, designed Knowledge Graph (KG)-based experiment for validating Interpretable AI framework

YONSEI UNIVERSITY — Seoul, South Korea
LLaMa2GPTQ — June 2023 - July 2023

- Optimized computing and memory cost by 75% using 4-bit GPTQ quantization applied to the LLaMa2 model

Texonom — November 2021 - June 2023

- Extended context window size by 400% by building a custom model deploying the e5 ONNX model for the recommender system
- Developed vector search API for RAG by embedding whole 30,000 pages in service into Postgres pgVector database

To smooth — Jun 2021 - July 2021

- Extended Chaikin's Smooth Algorithm implementation to multi-dimensional library and deployed it to the NPM registry