Jongwon Lee

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Skills

- **Data Science: ML/DL** - Python, TensorFlow, PyTorch, Hadoop, SVM, XGBoost, CatBoost, LGBM, SHAP, SMOTE, Causal Inference | **NLP** - NLTK, Sentiment/Stance Detection, LSTM, Transformers, GPT, BERT | **Computer Vision** - GAN, VAE, Diffusion, OpenCV, CNN **Data Visualization** - D3, Plotly, Seaborn, Paraview, Tableau, Google Chart | **Network Science** - Gephi, NetworkX, Neo4j, Cytoscape
- **Software Engineering:** Full Stack, RoR, JS, Redis, Node, React, Swift, SQL, Postgres, AWS, Heroku, Apache, Nginx, Linux, Unix
- **Others:** Excel, Git, Unity3D, R, LaTex, Arduino, EV3, MIS, UX/UI Design/Research, Journalism, English, Korean, Chinese, Japanese

Work Experience

Data Analyst Volunteer | PolicyEngine | Revolutionizing Public Policy with Programming | *United States*   APR 2023 — NOV 2023
- Program public policies such as child tax credits and tax benefits that differ by income and predict their impacts using **Python**.
- Investigate novel uses of **AI** such as **ChatGPT** to make public policy approachable to the public and predictable for policymakers.

Software Engineer | Sungkyunkwan University | University Bus Tracking App SKOOLBUS | *Seoul, Korea*   NOV 2017 — MAR 2019
- Led a **Ruby on Rails, AWS, Java, Swift** based project, resulting in 60%+ student and faculty population downloads.
- Recruited members, planned, conducted market research, consulted stakeholders and managed project budget and resources.

Data Scientist Intern | Smilegate | Game Platform Business | *Pangyo, Korea*   JUN 2017 — AUG 2017
- Led an **NLP** analysis of social media data to promote the Gaming Platform called Stove increasing the user base by 20%.
- Continued research involving social media data collection, keyword extraction, and web visualization won an **AWS award**.

Software Engineer | Likelion | Course Evaluation and Search App Classlion | *Seoul, Korea*   OCT 2016 — MAR 2017
- Led market research, planning, back-end development, server, and database management using **Ruby on Rails** and **AWS**.

Education

M.S. in Data Science, *Indiana University, Bloomington, IN*, **3.94 GPA**   DEC 2022
- Data Science Capstone, Computational Linguistics, Search, Scientific Visualization, Human Robot Interaction, and more.

B.A. in Economics, Minor in Informatics, *Indiana University, Bloomington, IN*,   MAY 2020
- Usable Artificial Intelligence, Data Visualization, Information Infrastructure I, II (**Python**, **SQL**), and more, **3.8 GPA** in Informatics.

B.A. in Global Economics, *Sungkyunkwan University, Seoul, Korea / Full Scholarship by Samsung Electronics Co. Ltd.*   MAY 2020

Projects and Research

Property Sales Analysis and Prediction   AUG 2022 — DEC 2022
- Conducted **ML**-based residential property prices prediction investigating housing properties. Leveraged Google Places, Melissa, Niche.com, Stats Indiana Data and compared **Regression, SVM, XGBoost, Catboost, LGBM**. Best model: **XGBoost**, MAPE 11.53%

Social Media Community Identification and Analysis   AUG 2022 — DEC 2022
- Leveraged data from Twitter and explored community detection libraries and tools such as **Gephi, NetworkX, Neo4j, Cytoscape**.

Study Buddy Robot - Human Robot Interaction   AUG 2022 — DEC 2022
- Led designing, building, and researching an **Arduino**-based interactive study buddy robot implementing Pomodoro technique.

3D Customer Segmentation Visualization with Paraview   AUG 2021 — DEC 2021
- Performed pre-processing tailored for 3D visualization, 3D visualization revealed features such as Married, Age were significant.

Evaluating Textual Features and Oversampling for Automatic Stance Detection   AUG 2021 — DEC 2021
- Performed **SVM** based **NLP** analysis on Twitter data to research stance and sentiment detection. Leveraged Subjectivity and Arguing Lexicon, used **SMOTE** to solve the class imbalance. Word-level features offer the most insight.

Systems Analysis and Design for CHRISTEL HOUSE INTERNATIONAL   JAN 2022 — MAY 2022
- Proposed Data Collection Plan, KPI Management, and CB Analysis for the client and this contributed to their expansion plan.

Awards and Recognition

Omnisian.com	AWS Power User Best 3	Amazon Web Service Korea	AUG 2017
Programming Club President of Sungkyunkwan University - Programming Education, Technical Support	Likelion	MAR 2017
Indie-Film Genie - Audience Prediction	Grand Prize	Sungkyunkwan University	DEC 2016
Nabla Puzzle Game with Unity	Smilegate Game Jam Best 3	Smilegate	OCT 2016
Tost.com – English Academy Search Web Service	Likelion Hackathon 5th Place out of 200+ Teams	Likelion	SEP 2016
Analysis on the Effect of Legal Cap on Phone Subsidies	Grand Prize	Sungkyunkwan University	AUG 2016
Forest Fire Early Detection and Suppression Tower with EV3	Grand Prize, Patent	Sungkyunkwan University	AUG 2016