Jongwon Lee
Data Scientist

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Skills

- **Data Science:** Python, **ML/DL** - TensorFlow, SQL, Decision Tree, Random Forest, SVM, Regression Tree, XGBoost, Catboost, LGBM, SHAP, SMOTE | **NLP** - NLTK, Sentiment/Stance Detection, Transformer, GPT | **Computer Vision** - GAN, Diffusion, OpenCV, CNN
  Data Visualization - D3, Plotly, Seaborn, Paraview, Tableau, Google Chart | **Network Science** - Gephi, NetworkX, Neo4j, Cytoscape
- **Software Engineering:** Full Stack, Ruby on Rails, Redis, Node, React, Vue, Swift, AWS, Heroku, Search Engine, Postgres, Unity, C#
- **Others:** Excel, Git, R, LaTex, Arduino, EV3, MIS, UX/UI Research, Journalism, English, Korean, Chinese, Japanese

Work Experience

Data Scientist Volunteer | PolicyEngine | Revolutionizing Policy Analysis with AI | *United States* — APR 2023 — CURRENT
- Investigate novel uses of AI to make public policy more approachable and predictable for the public and policymakers.
- Predict the impact of policies such as budget requirements and benefits developing policy models using **Python** and **ML**.

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 population downloads.
- Recruited members, planned, conducted market research, and managed project budget and resources.

Data Scientist Intern | Smilegate | Game Platform Business | *Pangyo, Korea* — JUN 2017 — AUG 2017
- Led **NLP** analysis on social media data to promote the Gaming Platform called Stove increasing 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**.

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.

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*, — DEC 2022
- Usable Artificial Intelligence, Data Visualization, Information Infrastructure I, II (**Python**, **SQL**), and more, **3.8 GPA** for Informatics.

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

Awards

Omnisian.com	AWS Power User Best 3	Amazon Web Service Korea	AUG 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