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Jongwon Lee

Data Scientist

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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 Scientist Volunteer | PolicyEngine | Revolutionizing Public Policy with Programming | United States APR 2023 — CURRENT

- 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**.

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 AND RECOGNITIONS

Omnisian.com | AWS Power User Best 3 | Amazon Web Service Korea AUG 2017

Programming Club President of Sungkyunkwan University | 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