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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 to the public and policymakers.
 - Conduct data science research using stacks such as GPT to improve public policy.
- 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**