YUNBEOM LEE

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EDUCATION

UNIVERSITY OF WATERLOO **Waterloo, ON**

Bachelor of Physics and Astronomy, Faculty of Science *Dec. 2024*

- **Relevant Coursework:** (Math) Calculus I-III, Linear Algebra, Differential Equations; (Statistics) Introductory Statistics, Probability, Statistics, and Data Analysis for Physics; (Programming) Computational Physics and Linear Algebra, Advanced Computational Physics
- **Honors**: University of Waterloo President's Scholarship (2019)
- **Military Service**: Completed mandatory military service as a Human Resource Specialist (42A) with the Korean Augmentation to the United States Army (KATUSA), serving from October 2021 to April 2023.

TECHNICAL SKILLS

- **Programming**: Python, R
- **Database Management**: SQL
- **Version Control**: GitHub
- **Data Visualization**: matplotlib

WORK EXPERIENCE

CHAIRED LABS Enhanced decision-making company for businesses and government agencies using government data **Seoul, Korea**

Data Analyst *May. 2024 – Aug. 2024*

Predictive Modeling of Seoul's Gross Regional Domestic Product (GRDP) Using Python with K-Nearest Neighbor (KNN)

- Built a master dataset from 50+ GRDP reports, leveraging Python for data cleaning and integration, resulting in a 100% data integrity rate for subsequent analysis.
- Executed predictive modeling using K-Nearest Neighbor (KNN) algorithm, achieving 85% model accuracy in identifying the primary economic activities impacting GRDP, validating findings with cross-validation techniques.
- Developed data visualization and dashboards with matplotlib, showcasing economic trends and insights, leading to actionable recommendations that informed stakeholder decision-making processes.

KOREAN AUGMENTATION TO THE UNITED STATES ARMY (KATUSA) **Pyeongtaek, Korea**

Human Resources Specialist *Oct. 2021 – Apr. 2023*

Streamlined Personnel Management for 41st Signal Battalion Using Administrative Tools and Data Tracking Systems

- Managed personnel records for over 200 officers and enlisted personnel using a database system, improving accuracy and reducing record discrepancies by 30% through regular audits and updates.
- Coordinated administrative support for the Korean Service Corps (KSC), implementing a standardized process for document handling and verification, which reduced processing time by 40%.
- Processed identification and access credentials for US civilian workers (KGS) using an automated memorandum system, achieving a 95% approval rate on first submission, ensuring seamless access for personnel.

BEYOND TECH IT company partnered with Apple to leverage data analytics for Korean localization and service optimization **Seoul, Korea**

AI Data Annotator *Jun. 2021 – Sep. 2021*

Optimization of Siri's Linguistic Data Processing through Annotation and Feedback Using Proprietary Tools

- Labeled over 5,000 linguistic data points with a 98% accuracy rate, utilizing proprietary annotation tools to improve AI learning models and optimize data processing pipelines.
- Enhanced Siri's response accuracy by 25% through targeted feedback and iterative training cycles, improving recognition of edge cases and multilingual scenarios.
- Collaborated with cross-functional teams to translate and annotate English-to-Korean datasets, ensuring a 100% match with project specifications, contributing to the enhancement of Siri's Korean language capabilities.

PROJECT EXPERIENCES

Statistical Analysis of Antibaryon-to-Baryon Ratios in High-Energy Collisions Using Python *Aug. 2023*

- Managed a dataset of over 10,000 collision events, implementing rigorous data cleaning protocols and ensuring 99% consistency for statistical modeling.
- Applied advanced statistical techniques, including model fitting and hypothesis testing (Welch's Two Sample T-Test), using Python to identify significant variations in antibaryon-to-baryon ratios across energy levels, contributing to particle physics research findings.
- Visualized data patterns with matplotlib, producing detailed visual reports that effectively communicated results to research teams and supported peer-reviewed publication efforts.

Car Price Prediction and Feature Selection with Cross-Validated Random Forest Model *Oct. 2024*

- Employed statistical and machine learning algorithms to analyze car price data and identify key features influencing pricing, improving model accuracy and interpretability.
- Applied feature selection techniques to determine the most significant predictors, resulting in actionable insights that guided effective pricing strategies.
- Developed and validated predictive model using Random Forest with five-fold cross-validation, achieving an R-Squared value of 0.91, which reinforced the model's robustness and supported pricing decisions.