NAM GYU LEE

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SUMMARY

Proactive and detail-oriented entry-level ML engineer with hands-on experience in building scalable AI solutions and uncovering actionable insights through data analysis. Currently developing an ML PaaS web application leveraging AWS and Docker for distributed processing. Collaborated on the Chicago TIF project as part of a 5-member team, uncovering a 50% income gap between predominantly white ($76K) and non-white ($38K) districts, highlighting potential socioeconomic biases. Achieved a Macro-averaged F1-score of 0.7115 and Micro-averaged F1-score of 0.7728 in wine review classification using a Naïve Bayes model. Proficient in data preprocessing, cloud technologies, and algorithm evaluation, with a strong passion for solving complex problems and delivering impactful solutions.

EDUCATION

ILLINOIS INSTITUTE OF TECHNOLOGY, CHICAGO, IL — Graduation: May 2025

Bachelor of Science, Artificial Intelligence, Minor in Applied Mathematics

- Relevant Courses: Data Structure, Algorithm, Machine Learning, AI-Language Understanding, Data Mining, Linear Optimization, Regression, Information Security

EVERETT COMMUNITY COLLEGE, EVERETT, WA — Graduated: March 2018

Certificate, Aviation Maintenance

SKILLS

- **TECHNICAL SKILLS**: PYTHON, JAVA, R, HTML, CSS
- **FRAMEWORKS & LIBRARIES**: TensorFlow, Scikit-learn, Transformers, NLTK, pySpark
- **DATABASE**: PostgreSQL
- **Tools**: Git, AWS, Docker
- **LANGUAGES**: English, Korean
- **Interpersonal**: Leadership, Teamwork, Mission-oriented planning, Event management, Community-building
- **OTHER**: Aviation Maintenance (FAA & MOLIT certified)

PROJECT EXPERIENCE

Machine Learning PaaS Web Application, https://github.com/namdarine/ML_PaaS — May 2024 - Present

Individual Project| Developing a scalable Machine Learning Platform as a Service web app that allows users to upload datasets for clustering or classification. The system uses AWS for distributed processing.

- Developing proficiency in containerizing applications and managing cloud resources, focusing on automating machine learning workflows for scalable web applications.
- **Technologies Used**: AWS, Python, Flask, pySpark, Docker

Chicago TIF Analysis, Illinois Tech https://github.com/namdarine/TIF_Chicago_Project — Jan 2024 - Apr 2024

Collaborated with a team of 5 to analyze the correlation between income, education, and TIF districts in Chicago, uncovering potential inequalities linked to TIFs and their socioeconomic impact on various racial demographics.

- Led data extraction and filtering to ensure clean, relevant data for analysis aligned with the project requirements, enhancing overall project accuracy and reliability.
- Results: Found a 50% income gap between predominantly white ($76K) and non-white ($38K) TIF districts, indicating potential biases in fund allocation.
- This role improved my knowledge of data processing and critical analysis, deepening my understanding of data's role in highlighting social and economic disparities.
- **Technologies Used**: Python, Pandas, GeoJSON, k-Means Clustering

Wine classification with Naïve Bayes classifier, Illinois Tech
https://github.com/namdarine/IIT_CLASS/tree/main/AI_LU/Assignment2 March 2024
Individual Project | Implemented a Naïve Bayes classifier to categorize wine reviews, reducing label categories for efficiency.

- Results: Achieved Macro-averaged F1-score: 0.7115, Micro-averaged F1-score: 0.7728
- Learned that removing stop words during preprocessing significantly impacted model performance, highlighting the importance of feature engineering in text classification.
- **Technologies Used**: Python, Pandas, Numpy, Matplotlib

Unsupervised Learning-Based Comparison for News Article Topic,
https://github.com/namdarine/news_article_classification December 2023 - January 2024
Individual Project | Conducted a performance comparison of models (ANN, Gemini, GPT) for news topic classification.

- Results: Gemini offered 10% higher usability, while ANN achieved the highest accuracy with high computational demands.
- Enhanced my knowledge of essential NLP techniques for handling text data and gained experience in evaluating model performance to select the most suitable algorithm for the task.
- **Technologies Used**: Python, NLTK, Word2Vec, TensorFlow

VOLUNTEER EXPERIENCE

Squad Leader, Republic of Korea Army May 2018 - January 2020

- Led a squad of 10 in executing missions, emphasizing strategic communication and cohesion.

LEADERSHIP EXPERIENCE

Internal Affairs, Korean Student Association, Illinois Tech August 2023 - May 2024

- Organized monthly events to strengthen community ties within IIT, fostering a collaborative and inclusive environment.
- Hosted a keynote speaker featuring Google's Senior Designer with 100+ student attendees from college campuses across Chicago.

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