# Yejin Hwang

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## Education

**Texas A&M University–Corpus Christi** — Corpus Christi, TX
*Master of Data Science; GPA: 4.0* — *Expected Dec 2025*

- Foundation Models (Time-Series / Language), Time-Series Forecasting

**Sungkyunkwan University (SKKU)** — Seoul, South Korea
*B.A. in Culture & Technology (Data Science); GPA: 3.72* — *Graduated Aug 2023*

## Experience

**Research Assistant** — Sep 2024 – Present
*Texas A&M University-Corpus Christi* — *Corpus Christi, TX*

- Led research on time-series forecasting of stock data using ARIMA, TimesFM, and Chronos-T5 (TSLA, AAPL, NVDA).
- Improved forecasting accuracy by 30% (MAE reduction) through feature engineering, hyperparameter tuning, and model selection.
- Presented at academic conferences and built reproducible dashboards with Python for results interpretation.

**Data Analyst** — Aug 2022 – Mar 2024
*Samsung Medical Center* — *Seoul, South Korea*

- Developed machine learning models for early disease detection; improved classification accuracy by 15%.
- Managed and analyzed 10K+ patient records through AWS-based ETL pipelines and SQL optimization.
- Collaborated with medical staff and data engineers to deliver real-time analytics for clinical decision-making.

## Projects

**Stock Forecasting Pipeline with Transformer Models** | *Python, Hugging Face, TimesFM, Chronos-T5* Apr 2025

- Built a full pipeline to forecast stock prices using yfinance API and applied both classical and transformer models.
- Evaluated short-term forecasts on TSLA, AAPL, and NVDA; proposed model ensemble strategy for robustness.
- Developed reproducible pipelines integrating yfinance API, PyTorch, and visualization dashboards.

**Bayesian Healthcare Risk Modeling (Finance-Focused Capstone)** | *R, MCMC(HMC), Regression* May 2025

- Developed probabilistic regression model for forecasting insurance charges, supporting actuarial cost modeling and financial risk assessment.
- Applied Bayesian hierarchical regression with nonlinear effects (age$^2$) and BMI×smoker interaction; validated via HMC and WAIC.
- Outperformed frequentist models (RMSE ↓2.7%, MAE ↓2.1%); enabled better uncertainty quantification for data-driven financial policy design.

## Presentations & Research

**Joint NMSU/UTEP Workshop on Math, Computer Science & Computational Sciences** — Apr 2025
*Presented forecasting model comparison using Chronos-T5 and TimesFM on TSLA data* — *Las Cruces, NM*

**Coastal Bend Mathematics and Statistics Conference** — Apr 2025
*Presented research on transformer vs. traditional models for stock price prediction* — *Corpus Christi, TX*

## Awards

**SKKU Dean's Award for Excellence in Global Engagement** — Mar 2023
*Recognized for top-level academic achievement and cross-cultural research initiatives* — *Seoul, South Korea*

## Technical Skills

**Languages**: Python, R, SQL
**Frameworks**: Scikit-learn, TensorFlow, PyTorch, Streamlit
**Tools**: Git, AWS, MySQL, Tableau, Power BI, Excel, VS Code, Jupyter Notebook, LaTeX
**Libraries**: Pandas, NumPy, Scipy, Yfinance, Matplotlib, Seaborn, Transformers, Statsmodels