

# SEVILAY MUNIRE GIRGIN

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[Github](#) | [LinkedIn](#) | [Medium](#) | [Tableau](#)

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## SKILLS

**Python** | Keras, Tensorflow, PyTorch, Scikit-Learn, NumPy, SciPy, Pandas  
**Hypothesis Testing** | A/B Testing, t-test, Chi-squared tests, ANOVA  
**Regression Analysis** | Linear and Logistic Regression  
**Machine Learning** | Decision Tree, Gradient Boosting, KMeans, NLP, Random Forest  
**Deep Learning** | Recurrent Neural Networks(RNNs), Convolutional Networks(CNNs)  
**SQL** | Relational Database Design, MySQL, PostgreSQL  
**Visualization** | Tableau, Looker, Matplotlib, Seaborn  
**Google Cloud** | BigQuery, Dataflow, Data Fusion, VertexAI

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## EDUCATION

<b>Google Cloud</b> - Machine Learning on Google Cloud   <a href="#">Certification</a>	Jul - Oct '24
<b>IBM</b> - AI Engineering Professional Course   <a href="#">Certification</a>	Jun - Aug '24
<b>Google</b> - Advanced Data Analytics Course   <a href="#">Certification</a>	Mar - May '24
<b>Koc University</b> - Istanbul, TR	Oct '21 - Jun '23
Master of Science, MSc.   GPA: 3.82	
<b>Bogazici University</b> - Istanbul, TR	Sep '15 - Jul '21
Bachelor of Science, BSc.   GPA: 3.40	

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## EXPERIENCE

**Scientific Researcher - Koc University** | [Publication](#) Sep '21 - Oct '23

- Used **SQL** and **Excel** to process **2708 images** and quantitatively analyze **16070 data points**.
- Applied **statistical methods**; hypothesis formulation, t-test and ANOVA.
- Visualized data by **78 graphs**, **76 figures**, **12 representative images**.
- Reported** and **presented data** to stakeholders at conferences and weekly group meetings.
- Proved** systematic effect of interested molecule on crucial cellular organelle for the first time.

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## PROJECTS

**Sentiment Analysis with NLP Model BERT: Classify IMDb Reviews** | [Link](#) Oct '24  
*Objective:* Built **BERT-based sentiment analysis** model to classify IMDb movie reviews, **unstructured text data**, into positive, negative, and mixed categories.

- Fine-tuned pre-trained **BERT** and used *rule-based function* using the model's *output logits*.
- Used **Hugging Face Transformers**, **PyTorch**, **Scikit-Learn**, **Matplotlib**.
- Achieved **92% accuracy** and presented *practical application* of sentiment analysis.

**Neural Networks for Multivariate Time Series Forecasting** | [Link](#) Aug '24  
*Objective:* Build deep learning models leveraging LSTM to predict Apple and Google stock prices.

- Used **TensorFlow**, **Keras**, **Scikit-learn**, and **Matplotlib** for model building and evaluation.
- Processed data for *time-series model* via [time-windowing](#), [train-test splitting](#), [normalization](#).
- Applied domain-specific **feature engineering** and **correlation analysis** for model improvement.
- Build and optimized **5 LSTM models** using **Keras Sequential** class and **GridSearchCV**.
- Achieved high performance with **0.02% MAPE** and **98% R<sup>2</sup>** for both Apple and Google models.

**Random Forest Model: Improving Employee Retention for Salifort Motors** | [Link](#) May '24  
*Objective:* Predict employee churn and identify employee leave/stay incentives.

- Used **NumPy** and **Pandas** for data structuring, cleaning, and feature engineering.
- Implemented **Matplotlib** and **Seaborn** data visualization to explore *relations among variables*.
- Built **tree-based machine learning** models and **logistic regression** to select champion model.
- Produced **random forest** with **94% F1-score**, **feature importance plot** and **confusion matrix**.