# MUHAMMAD HABIL AMARDIAS

Bogor, ID

(+62) 85974559687 | habilamar@gmail.com | github.com/HabilAmardias | kaggle.com/habilamar

linkedin.com/in/muhammad-habil-amardias | https://habilog-sigma.vercel.app/

I am a fresh graduate of Mathematics at Universitas Indonesia. Enthusiastic and detail-oriented with a strong foundation in machine learning and artificial intelligence. Adept at leveraging data analytics, statistical modeling, and advanced algorithms to drive insightful decision-making and innovative solutions.

## EDUCATION

**Universitas Indonesia** *Depok, ID*
*Fresh Graduate of Mathematics (GPA: 3.33/4.00)* *Aug 2020 – Aug 2024*

***Relevant Coursework:*** *Data Science, Computational Intelligence, Web Mining, Linear Model, Bioinformatics, Data Categoric Analysis, Mathematical Statistic, Algorithm Design and Analysis*

## SKILLS

**Programming Languages:** Python, Javascript, SQL
**ML Library:** Scikit-Learn, Pandas, Polars, Matplotlib, Seaborn, PyTorch, Tensorflow, OpenCV, XGBoost, LightGBM, PIL
**Web Framework & VCS:** SvelteKit, Streamlit, Flask, Git, Github
**Language:** English (Intermediate, TOEFL ITP 580), Indonesia (Native)

## SEMINAR & COMPETITION

**International Symposium on Biomathematics, Symomath** *Depok, ID*
*Presenter* *Jul 2024*

- **Conducted a literature study** on tuberculosis and vision transformer model
- **Collected chest X-ray images** of patients with and without tuberculosis
- **Processed chest X-ray image data with several methods** such as Contrast Limited Adaptive Histogram Equalization, Gaussian Blur, Resize, and Normalization
- **Built and trained** the Conditional Positional Encoding Vision Transformer with Convolution Stem model with **PyTorch**
- This research successfully achieved **99% accuracy**, **F1 score of 0,97338** and **recall score of 0,95757**
- Presented “Performance Analysis of Conditional Positional Encoding Vision Transformer with Convolution Stem Model in Classifying Tuberculosis Disease on Chest X-Ray Image” research in front of the audience

## PROJECTS

**Single Image Super Resolution** *Bogor, ID*
*Personal Project* *Jan 2025*

- **Trained Super Resolution GAN (SRGAN)** model for **Image Super Resolution** with **PyTorch.** Achieved **0.22 Adversarial Loss** on validation dataset.
- **Resize, Normalize,** and **extract random patches from image** for model training with **PIL** and **PyTorch**
- Create **preprocessing pipeline** for model inference
- Built an interactive front-end using **Streamlit**, allowing users to upscale images with enhanced quality and view upscaled image result.

**Weather Forecasting System** *Bogor, ID*
*Personal Project* *Jan 2025*

- Developed an **automated weather forecasting system** for Gunung Putri, Indonesia.
- Utilized a **VAR (Vector Autoregression)** model to predict weather patterns.
- Implemented daily **data extraction pipeline** and **scheduled model retraining pipeline every 5 days** with **Prefect**.
- **Built an interactive user interface** with **Streamlit** for displaying weather predictions.
- Ensured scalability and reliability through **Supabase** for data storage and management.

**Face Age Detection** *Bogor, ID*
*Personal Project* *Dec 2024*

- Create **preprocessing pipeline** for model training and inference with **PIL** and **PyTorch**
- Trained a deep learning model **MobileNetV3** with **PyTorch** to predict age ranges from facial images, achieved **82% accuracy** on the validation dataset.
- Built a scalable backend with **Flask** to serve model predictions via REST API.
- **Built an interactive and user-friendly frontend** with **Streamlit**, enabling users to upload images and view results in real time.

**Customer Churn Behaviour Analysis** *Bogor, ID*
*Personal Project* *Nov 2024*

- Conducted an in-depth analysis of a telco customer dataset to identify key factors influencing churn behavior.
- Train **XGBoost** model on dataset and analyze model **feature importance** and **partial dependence**.
- Found insight that **shorter-term contracts are linked to higher churn rates**; suggested offering long-term contracts or renewal incentives.
- **Customers using certain internet services (e.g., Fiber optic) are more likely to churn**; recommended improving internet service offerings or lowering prices.
- **Customers using electronic payment methods (e.g., electronic checks) show higher churn rates**; advised promoting more convenient payment methods or improving existing options.
- **Built and deployed an interactive front-end** with **Streamlit** and **plotly**, allowing users to interact with the visualization plots.