TUN KEDSARO

CONTACT

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DEGREE

Bachelor of Engineer in Electrical (B.ENG)

SKILLS

// Technical languages
Python, MATLAB, C, HTML5, CSS3, JavaScript, TypeScript

// Web framework
Django, FastAPI

// Database
SQL: MySQL, SQLite, PostgreSQL, MongoDB, DBeaver

// OS
Windows, Linux

// Cloud
AWS (RDS, Lambda, S3, API gateway, Sage Maker, IAM,EC2)

// Technical
- Signal processing
- Image processing
- Data science
- Machine learning
- Natural Language Processing (NLP)
- Web & API development

I am a graduate in Electrical and Communication Engineering from Kasetsart University with a strong passion for data science, AI, and full-stack development. I excel in building innovative solutions, leading teams, and adapting to new challenges while ensuring effective collaboration and high-quality results.

EDUCATION

Kasetsart University (Bangkhen)
From July 2017- June 2021

Water drop height
- Utilized Matlab software and knowledge of Fourier analysis to analyze sound waves from dripping water hitting a surface, enabling the determination of water source heights from sound recordings captured on a mobile phone.
- Technologies used : Matlab ,signal processing

Fingerprint localization from smartphone image
- Identified fingerprint patterns' areas from images captured with a mobile phone, utilizing image processing techniques and achieving an efficiency of 94.4%.
- Technologies used : Python, OpenCV, Tensorflow

ACHIVEMENT

Super AI Engineer 4 (Bootcamp by AIAT)
From JAN 2024- OCTOBER 2024

Honor : Bronze Medal Recognition

Pangpuriye house Leader
- Organized meetings, made key decisions, and appointed project managers for weekly projects.
- Planned and managed house activities.
- Coordinated communication between house members and bootcamp supervisors.

Hackathon Sleep Stages Classification (Signal Processing)
- Achieved **1st** (1/156) place in a competition on Kaggle
- Developed and implemented a machine learning model to accurately classify different sleep stages (Wake, Non-REM, REM) using polysomnographic signal data. Solved the issue by concatenating all the data and grouping it into windows using statistical measures (AVG,STD) for model building.
- Tools and Technologies: Python, Pandas, LightGBM, CatBoost

Hackathon Extractive QA (NLP)
- Achieved **1st** (1/29) place in a competition on Kaggle
- Developed an NLP model for extractive question answering, experimenting with various language models and fine-tuning them to achieve maximum accuracy in providing relevant answers.
- Tools and Technologies: Python, Regex, Transformers, PyTorch

Hackathon Human Activity Recognition (Data science)
- Achieved **7th** (7/95) place in a competition on Kaggle
- Developed a robust machine learning model to classify human activities using wearable sensor data, addressing class imbalance with effective resampling techniques and feature engineering. Implemented hyperparameter tuning using Optuna to optimize model performance, resulting in improved accuracy.
- Tools and Technologies: Python, Pandas, NumPy, Optuna, PyTorch

Hackathon License Plate Recognition (Image processing)
- Achieved **12th** (12/133) place in a competition on Kaggle
- Developed a computer vision system to recognize and read letters, numbers, and provinces from vehicle license plate images. Employed image preprocessing techniques and utilized YOLOv10 to create an efficient model.
- Tools and Technologies: Python, YOLO, NumPy, Scikit-learn, Pandas, Matplotlib, shutil

Tools

- **Version control**
  - Git
- **Data science**
  - Numpy
  - Pandas
  - Xarray
  - LightGBM
  - CatBoost
  - XGBoost
- **Machine learning**
  - AutoGluon
  - Tensorflow
  - Pytouch
  - Scikit-learn
- **Visualization Tools**
  - Matplotlib
  - Seaborn
- **API Development**
  - FastAPI
- **NLP**
  - Transformers
  - Hugging Face
  - ChatGPT (API)
  - GEMINI (API)
- **Computer Vision**
  - CV2
  - PIL
  - Skimage
- **Containerization**
  - Docker

WORK EXPERIENCE

Siam university / AI Engineer (Intern)
From AUGUST 2024 to OCTOBER 2024

Student detection and Face recognition From CCTV

- Collected and curated datasets from the Internet to train a person detection model
- Developed a high-accuracy student detection model, achieving 89% accuracy
- Implemented a program to determine student attendance statuses: Present, Absent, and Late
- Built a Django-based web application to integrate and deploy the detection model for real-world usage
- Designed and coded a face detection and recognition system capable of identifying individuals by name
- Enhanced image quality using super-resolution techniques (SR3, SRGAN)
- Augmented dataset diversity by generating 3D face images using DECA 3D Face Model
- Containerized the codebase using Docker and deployed it as an API (gRPC) for seamless integration
- Integrated AWS cloud services to scale and deploy the project
- Technologies used : Python, PostgreSQL, FastAPI, AWS (S3, SageMaker, Lambda, API Gateway), Docker

Algorithmics Programming School / Python tutor
From December 2022 to December 2024

- Educated students Python programming, focusing on cultivating strong foundational skills and imparting advanced programming knowledge.

GISTDA / Innovation Developer
From November 2021 to April 2024

Satellite Data Analyst

- Developed a Python program that checks and generates Excel reports on the status of Landsat 7, 8, and 9 satellite images stored in a distributed data repository.
- Tools and Technologies : Python, Linux, GDAL

WaterDetection & WaterQuality

- Created and published **'Lazyearth'** a Python package for water detection and water quality analysis using Landsat 8 images, with over 80.85k downloads. This package, featuring a detailed online user manual available at lazyearth.org, employs K-means clustering, Naïve Bayes, and statistical methods to generate a binary water mask output with 90.586% IOU effectiveness. This enhancement has streamlined workflows across various departments.
- Tools and Technologies: Python, TensorFlow, Keras, GDAL, Numpy, Xarray, HTML, CSS, JavaScript, Firebase.

Super resolution

- Developed a tool to enhance the clarity of indistinct satellite images, facilitating detailed classification and analysis. This enhancement was achieved by applying SRCNN (Image Super-Resolution Using Deep Convolutional Networks) principles to sharpen images. The tool has since been integrated into the Lazyearth library under the name superresolution function.
- Tools and Technologies : Python

Chanwanich / Intern
From April 2020- June 2020

Face Detection (Pose Estimation)

- Developed an object detection model using OpenCV and TensorFlow to identify face directions, achieving 86.4% efficiency.
- Tools and Technologies : Python, TensorFlow, OpenCV