

# Latifa Nabila Harfiya

Jakarta, Indonesia

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AI Specialist with 5+ years of experience specializing in developing and deploying **Deep Learning** models for accurate **Time Series Forecasting** and secure **Biometrics Recognition**. Proficient in statistical modeling, advanced programming languages, and the ability to clearly articulate complex technical concepts through effective teaching, public speaking, and technical presentations. I did my PhD at National Central University Taiwan, where I work primarily on real-time blood pressure estimation on smartphones. My primary drive is to bridge the gap between cutting-edge AI research and impactful **real-world problem solving**.

## Work Experience

### Deep Learning and Media System Lab

Research Assistant · 1 year 6 months

Taoyuan, Taiwan

Jun 2023 - Dec 2024

- Developed a self-supervised learning model for an industrial fault detection system on intel's temperature sensor dataset, which led to the publication of **one conference paper**.
- Contributed to conducting research on privacy preservation that involves a defense architecture system capable of anonymizing users' identities and **protecting users' speech-sensitive information** from eavesdroppers.

### Foxconn

Research Intern · 2 years

Taipei, Taiwan

Dec 2021 - Dec 2023

- Built an end-to-end model applying text-to-speech (TTS) and a generated adversarial network (GAN)-based model for an interactive video-lip sync generator. **The project was reviewed by the CEO and exhibited at Hon Hai Tech Day (HHTD) 2022**, which was attended by 1000+ Foxconn global partners.
- **Filed a patent** for the data processing device and method of a mobile healthcare solution-based signal-to-signal blood pressure estimation.

### Machine Learning and Biometrics Recognition Lab

Research Assistant · 3 years 3 months

Taoyuan, Taiwan

Sep 2018 - Dec 2021

- Built various deep learning models for blood pressure estimation (BPE) systems and develop a real-time mobile and wearable application capable of obtaining a photoplethysmogram (PPG) or heart rate signal from a smartwatch to mobile device and predicting the blood pressure value and **published 4 papers** in reputable journals.
- Contributed to building a deep learning-based model for diabetic retinopathy detection and optimized GAN model rebalancing the iris image dataset, **resulting in 2 publications**. Additionally, I conducted exploratory research on face recognition, benchmarking the MegaFace dataset, and driver drowsiness detection for driving simulation projects.
- Led and managed small teams (for BPE project) of bachelor's and master's students, ensuring our work progresses according to the established timeline.

## National Central University

Teaching Assistant · 1 year

Taoyuan, Taiwan

Fall 2019, 2020

- Conducted a single tutorial session on **MATLAB for Beginners**, where I prepared all content including practical code examples and live demonstrations. The goal was to equip students with immediate, hands-on skills, supported by supplementary learning materials. This session was critical as it directly enabled students to complete the required homework assignments using MATLAB.
- Provided supplementary academic support through **scheduled consultation sessions** to help students address difficulties in complex topics and assigned coursework.

## CV Global Solusindo

Mobile App Developer · 7 months

Malang, Indonesia

Jan 2018 - Aug 2018

- Built several Android apps from scratch, design the architecture, and manage abstraction for networking and databases with Firebase. Achieve **Best Performer Employee** for several months.

## Technical Skills

Machine Learning | Deep Learning | Python | SQL | MySQL | MATLAB | R | Java | PyTorch | Tensorflow | Caffe | Docker | Azure | Tableau | Presto | Hive | NumPy | Pandas | Matplotlib | PowerBI | Firebase Analytics | ETL (Extract, Transform, Load) | Probability/Statistics | Algorithm | Data Structure | Data Visualization | Data Pipeline Optimization | CI/CD | Git and Version Control

## Education

### National Central University

Doctor of Philosophy (PhD) in Computer Science  
(Direct admission)

Taoyuan, Taiwan

2020 - 2024

### National Central University

Master of Computer Science

Taoyuan, Taiwan

2018 - 2020

### University of Brawijaya

Bachelor of Computer Science

Malang, Indonesia

2013 - 2017

## Honor & Awards

### Scholarship Awards

National Central University, Taoyuan, Taiwan

Awardee

2018 - 2024

### The 1st International Conference on Informatics and

Computational Sciences (ICICoS 2017)

Diponegoro University, Semarang, Indonesia

Best Paper

2017

## Invited Talks

The AI Algorithm: Frontiers, Impact, and Your Role  
in the Tech Multiverse  
Syiah Kuala University, Banda Aceh, Indonesia

Speaker  
Nov 2025

SoCS Hackathon for AI  
BINUS University, Jakarta, Indonesia

Trainer  
Nov 2022

AI Course for Healthcare Professional  
National Central University, Taoyuan, Taiwan

Speaker  
Jun 2021

## Selected Publications

**Harfiya, L.N.**, Hsu, Y.C., Li, Y.H., and Wang, J.C., 2023. On the Optimal Self-Supervised Multi-Fault Detector for Temperature Sensor Data. In 2023 Asia-Pacific Signal and Information Processing Association Annual Summit and Conference (APSIPA ASC). IEEE.

**Harfiya, L.N.**, Chang, C.C. and Li, Y.H., 2021. Continuous blood pressure estimation using exclusively photoplethysmography by LSTM-based signal-to-signal translation. *Sensors*, 21(9), p.2952.

Li, Y.H., **Harfiya, L.N.**, Purwandari, K. and Lin, Y.D., 2020. Real-time cuffless continuous blood pressure estimation using deep learning model. *Sensors*, 20(19), p.5606.

**Harfiya, L.N.**, Widodo, A.W. and Wihandika, R.C., 2017, November. Offline signature verification based on pyramid histogram of oriented gradient features. In 2017 1st International Conference on Informatics and Computational Sciences (ICICoS) (pp. 23-28). IEEE. (Best paper award)

For more, please visit: <https://scholar.google.com/citations?user=2mFlcF8AAAAJ>

## Patent

Li, Y.H., **Harfiya, L.N.**, (2023). Data Processing Device and Method. (US-20230363651-A1). U.S. Patent and Trademark Office.