## CV



Name: Mr. Phiphat Chomchit

Birth date: 27/02/1995

Location: Chiang Mai, Thailand

#### **Contact Information**

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GitHub: https://github.com/OrnlyP63

Medium: https://medium.com/@phiphatchomchit

Linkedin: https://www.linkedin.com/in/phiphat-chomchit-517b81206/

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#### **Profile**

I have been coding in Python and working with Artificial Intelligence/Machine Learning for five years. I hold a bachelor's degree in Mathematics and a master's degree in Data Science. My expertise includes Statistics, Probability Theory, Linear Algebra, Calculus, Partial Differential Equations, and Ordinary Differential Equations, all integrated with Machine Learning applications. I have experience building Machine Learning projects using various frameworks and tools, including NumPy, SciPy, Pandas, Scikit-Learn, PyTorch, TensorFlow, FastAPI, GitHub, and Docker.

My projects primarily focus on improving model training time and reducing resource consumption. I believe that modern Machine Learning needs to be optimized for online streaming data, which demands high computational power and fast training. I have experience writing CUDA C to accelerate model training through parallel processing. Additionally, I research models that require fewer computational resources during the training process. I believe my skills can help you develop Machine Learning solutions that enhance your business.

## Work Experience

- Al Engineer Consultant Synapes Thailand | Remote Freelancer | Jan 2022 Present
  - Cryptocurrency Portfolio Optimization Developed optimization models for asset allocation, improving portfolio returns while reducing risk exposure.
  - Route Optimization Designed Al-driven routing algorithms to minimize logistics costs and enhance operational efficiency.
  - Anomaly Detection using Machine Learning Built anomaly detection systems for fraud prevention, improving security and reducing financial losses.
  - Churn Rate Analysis on Customer Data Performed data cleaning and visualization to identify high-risk customers, helping improve retention strategies.
  - Predicting Default Debt Rate in Finance Developed financial risk models to assess default probability, enabling businesses to manage risk more effectively.
  - Conducted training sessions on Machine Learning, PyTorch, and Reinforcement Learning for AIT
     Thailand. Designed and delivered hands-on workshops, guiding participants in implementing ML
     and RL models.

### Education

- Bachelor's Degree in Mathematics, Faculty of Science, Chiang Mai University (2014–2018)
- Master's Degree in Data Science, Department of Engineering, Chiang Mai University (2021–Present)

#### Skills

- Programming Languages:
  - o Python,
  - Julia,
  - о C,
  - CUDA C,
  - NetLogo
- Frameworks & Libraries:
  - NumPy,
  - o SciPy,
  - o Pandas,
  - o Scikit-Learn,
  - PyTorch,
  - o TensorFlow,
  - Z3,
  - NetworkX,
  - JupyterLab,
  - FastAPI
- Tools & Technologies:
  - Docker,
  - Git,
  - Streamlit
  - Gradio
- Models & Techniques:

- o Extreme Learning Machine,
- Reservoir Computing,
- Reinforcement Learning,
- Agent-Based Modeling,
- Attention Mechanism,
- o Transformers,
- Dendritic Gated Networks,
- Hyperdimensional Computing,
- Conformal Prediction,
- Extreme Value Theory,
- Portfolio Optimization,
- Particle Swarm Optimization,
- o Genetic Algorithm,
- Cryptography,
- Quantum Computing,
- Monte Carlo Simulation

### **Personal Projects**

- My medium blog: I write many articles about Probability theory, Mathemtics and Al
  - Using Extreme Value Theory to analyze the worst scenario in the Crypto Market link
  - Trading Strategy Assessment By The Bootstrap Method. link
  - Fermat Factorization Algorithm can break poor RSA encryption. link
  - Let's code Lattice-Based Encryption: The post-quantum encryption. link
  - Deep learning in the Matrix link
  - Extreme Learning Machine (ELM) is the speed-up learning method for Artificial Neural Network link
  - Let's deploy your deep learning model with Gradio. link
  - o etc
- Academic Papers
  - A Product of Two Primes with Difference 2 link
- Conferences
  - Strong-motion Earthquake Prediction Model using Convolutional Extreme Learning Machine link
  - Auto Encoder for Anomaly Detection in the Cryptocurrency Market Using On-Chain Data link
- GitHub Project
  - Complexity Sciece Project link
  - Quantum Tutorial link
  - Implement ML using FastAPI link
  - Basic PyTroch Tutorial link
  - TensorFlow tutorial link
  - Air Pollution Prediction using GNN link

- Genetic Algorithm for Mathematics link
- Z3 optimization link
- Topic Clusting with LDA link
- Bird Song Detection using Deep Neural Network link
- Time Table Management using GA link

### Certifications

- Super Al Engineer Season 2
- Automated Reasoning: satisfiability link
- Neural Networks and Deep Learning link
- Biology Meets Programming: Bioinformatics for Beginners link
- Introduction to Agent-Based Modeling link
- Nonlinear Dynamics: Mathematical and Computational Approaches link
- Introduction to Dynamical Systems and Chaos link
- Fractals and Scaling link







## CERTIFICATE OF APPRECIATION

This is awarded to

### **Phiphat Chomchit**

For an oral presentation on the topic: Leveraging Deep Learning for Crypto Portfolio Optimization: An Autoencoder Approach At the Computational Science Summer School 2025 (CSSS2025) on Optimization and Modelling in Finance and Bioscience February 17<sup>th</sup> -21<sup>st</sup>, 2025

Silpakorn University, Nakhon Pathom, Thailand

N. Chimpelu.

Asst. Prof. Narong Chimpalee, Ph.D.

Dean, Faculty of Science, Silpakorn University

Asst. Prof. Sawanya Sakuntasathien, Ph.D. Head, Department of Mathematics Faculty of Science, Silpakorn University















## CERTIFICATE OF PARTICIPATION

This is to certify that

# Mr. Phiphat Chomchit

has participated in the Computational Science Summer School 2025 (CSSS2025) on Optimization and Modelling in Finance and Bioscience February 17<sup>th</sup> -21<sup>st</sup>, 2025

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