

# THEO NGUYEN

Fairfield, Iowa 52556 • +1-641-233-2298 • [ngoccuong.forwork@gmail.com](mailto:ngoccuong.forwork@gmail.com)  
<https://www.linkedin.com/in/ngoccuongpvc/>

## FULL STACK PYTHON DEVELOPER

Highly motivated full-stack software engineer with 3 years of experience designing, developing, and deploying robust applications within the e-commerce and quantitative trading domains. Demonstrated success in building scalable systems, including an ETF platform designed to process and manage petabytes of data, along with developing algorithms for data consistency testing. Proficient in a wide range of technologies, including Python, Spark, Kafka, MySQL, Elasticsearch, JavaScript, and React.

- Data Structures and Algorithm • Critical Thinking • Problem Solving • Object Oriented Programming • SOLID Principles
- Database Management • Code Version Control • Performance Optimization • Concurrency and Multi-Threading

**Languages:** Python, JavaScript

**Web:** HTML, CSS, Bootstrap, jQuery, AJAX, React

**Web Services:** RESTful API, GRPC

**Web/App Servers:** Gunicorn, Nginx

**Frameworks:** Flask

**Databases:** MySQL, Elasticsearch, Redis, Google BigQuery

**Design Patterns:** MVC, Singleton, Factory, Composite, Repository, Decorator, Facade, Factory

**SDLC:** Agile

**Tools:** Podman, Docker, MobaXterm, Anaconda, Balsamiq, Postman, MySQL Workbench, DBeaver

**Platforms:** Linux, MacOS, Windows

**Big Data:** Apache Spark, Apache Hadoop, Apache Kafka, Apache Airflow, Pandas, NumPy

## PROFESSIONAL EXPERIENCE

**CAREER NOTE:** Completed on-campus studies and currently taking distance education courses to complete a **Master's Degree in Computer Science** (Available for full-time, W-2 employment).

### WORLDQUANT LLC, Ho Chi Minh, Vietnam • 06/2022 – 07/2024

An international hedge fund and quantitative investment management firm headquartered in Old Greenwich, Connecticut.

#### Software Engineer

Build a data pipeline to process and ensure data quality for terabytes of data daily.

- Developed a document-as-code ETL data system using Python, Spark, and Kubernetes (K8s), capable of handling petabyte-scale dataset, with a P99 processing time of under one second.
- Implemented data consistency algorithms for a Data Quality Management System to detect data abnormalities using Spark, Pandas, Kubernetes (K8s), reducing operational costs for users by 90%.
- Designed an Audit System integrated with Kafka and Elasticsearch to enable automatic fault data correction, achieving 100% incident coverage.
- Migrated systems from bare-metal servers to the cloud using Docker, Helmfile, and Kubernetes (K8s), reducing the deployment pipeline time from over 30 minutes to under 5 minutes.
- Enhanced unit tests using Pytest and SonarQube, increasing test coverage from 40% to over 90%.
- Collaborated daily with the US team to plan, prioritize, and implement new features, ensuring alignment across teams and timely delivery.

**Technologies Used:** Python, Spark, ReactJS, Helmfile, K8S, Kafka, ElasticSearch.

### TIKI CORPORATION, Ho Chi Minh, Viet Nam • 11/2021 – 05/2022

Vietnam's third-largest B2C e-commerce platform, offers electronics, fashion, home goods, and groceries.

#### Software Engineer

Built a search engine and autocomplete system integrated with a machine learning model to optimize revenue.

- Enhanced XGBoost models through hyperparameter tuning, boosting CTR by 10%.
- Optimized Google BigQuery by leveraging projection and table partitioning, reducing data collection time by 20%.
- Implemented an AutoComplete System using Pruning Radix Trie data structures, achieving a 10x faster response time.

- Applied Singleton and Factory design patterns and leveraged distributed execution to speed up the test lifecycle time by 90%.
- Conducted A/B tests for Learning-to-Rank (LTR) models, leveraging the Mann-Whitney U test, leading to a 20% improvement in ranking accuracy.

**Technologies Used:** Java, Google BigQuery.

---

## INTERNSHIP EXPERIENCE

### ZALORA Group, Ho Chi Minh, Vietnam • 02/2020 – 11/2021

A leading online fashion, beauty, and lifestyle destination in Southeast Asia, is headquartered in Singapore.

#### Software Engineer Intern

Build an order management system that handles millions of order updates daily.

- Optimized the CI/CD pipeline by applying layer caching and multi-stage building, reducing build time by 50% and image size by 90%.
- Resolved status constraint violations using Kafka and leveraging partitions, eliminating thousands of daily manual updates.
- Developed an in-house system profiler for PHP aligned with the OpenTracing specification, using C and Elasticsearch, saving \$10,000 in monthly subscription fees previously incurred with New Relic.
- Improved the availability and automation of delivery services by implementing a rule-based selection algorithm, optimizing efficiency across 100+ shipping providers, and reducing average shipping time by 0.5 days.
- Applied the sidecar pattern to asynchronously receive and push logs from Ephemeral Volumes, increasing log availability to 100%.

**Technologies Used:** PHP, Falcon, AWS EC2, AWS CloudWatch.

---

## ACADEMIC PROJECTS

### Maharishi International University (2024)

- **A&C E-Commerce:** A&C E-Commerce is a two-person final project for the Web Application Architecture course, designed for sellers and customers. I implemented an N-tier architecture using Java, Spring Boot, and Hibernate for low latency and high maintainability. Integrated JWT for stateless authentication and containerized the backend for deployment on Azure with a rolling strategy, ensuring zero downtime. Technologies: Java, Spring, Hibernate, TypeScript, React, PostgreSQL.
  - **EaseDiary:** EaseDiary is a two-person final project for the Modern Web Application course, designed for journaling and progress tracking with OpenAI integration. I led the development using a client-server architecture with Angular for a seamless SPA experience. Implemented advanced OpenAI techniques like RAG, Function Calling, Image-to-Text, and Reasoning to enhance output quality. Optimized performance and ensured cross-platform functionality. Technologies: Node.js, Express, MongoDB, TypeScript, Angular, LLM, Image-to-Text.
- 

## EDUCATION

### Master of Science in Computer Science

*(In progress via distance education; expected completion 04/2027)*

Maharishi International University, Fairfield, Iowa

Key Courses: Algorithms, Web Programming, Modern Web Applications, Web Application Architecture

### Bachelor of Science in Computer Science

Viet Nam National University, Ho Chi Minh, Ho Chi Minh (09/2023)

---

## CERTIFICATIONS

[AWS Certified Cloud Practitioner](#) (02/2025)

[AWS Certified Solution Architect – Associate](#) (03/2025)