# Ngoc-Minh Vu

S2.06 Vinhomes Ocean Park, Gia Lam, Ha Noi

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## Education

**Hanoi University of Civil engineering**                                     **Sep. 2021 – Jan 2025 (Expected)**
*Bachelor of information technology*                                          .
GPA: 3.4/4.0 - 7.9/10

## Technical Skills

**Languages**: Python, Java, C/C++, HTML/CSS, JavaScript/TypeScript, SQL,...
**Libraries**:NumPy/Pandas/Keras/Scikit-learn, ReactJS, ExpressJS/Flask.
**Developer Tools**: VS Code, Xcode, Android Studio, ...
**Technologies/Frameworks**: ReactNative, MongoDB, MySQL/SQL Server/PostGreSQL.

## Research experiments

**AINI Labs: Artificial Intelligence Network Innovation**                     **Sep 2022 – Now**
*Research Assistant*                                                          *City, State*

- **Optimizing Server and Route Selection in Inter-SDN Domains with LSTM**
  * Introduced a novel approach utilizing Long Short-Term Memory (LSTM) for predicting link costs in the server and route selection process within distributed and heterogeneous SDN networks.
  * Addressed the challenges posed by the non-linear nature and uncertainty of traffic flows, leveraging a comprehensive network state dataset containing over 2.7 million traffic data points.
  * Attained a remarkably low Mean Squared Error (MSE) of $18 * 10^{-5}$ and demonstrated execution speeds 15 times faster than traditional centralized Machine Learning (ML) methods.
  * Achieved superior network performance metrics, including a 15% increase in link utilization, 10% reduction in packet loss, and faster server response times compared to established benchmarks.

- **A New Transfer Learning-Based Traffic Classification Algorithm for a Multi-Domain SDN Network**
  * Introduced the Multi-class TrAdaBoost-CNN algorithm to address cross-domain classification challenges in encrypted network services.
  * Conducted extensive experiments on two distinct domains with imbalanced data distributions, showcasing the algorithm's efficacy.
  * Achieved significant accuracy improvements of up to 16% compared to traditional CNN models, 14% compared to normal transfer learning even with limited data.

## Projects

**Meditify: A Blogging Platform with Generative AI** | *TypeScripts, Python*          **January 2023**
- Built using TypeScript, ReactJS, ExpressJS, and MongoDB.
- Project empowers content creators to utilize the power of AI (GPT-3) for generating content suggestions and automating content creation.
- Developed a rich text editor with comprehensive functionalities, including a Dashboard for managing information and blog posts.
- Designing a framework for the knowledge and information tiered system, enabling transfer learning of models within the system.

**Research and Improvement of Large Text Data Compression Techniques.** | *Java, Android Studio* **November 2020**
- Conducted research focused on enhancing data compression techniques.
- Specifically worked on improving the arithmetic coding algorithm for data compression.

## Honors and Awards

- 1st Prize in the national science and technology competition for university students nationwide.
- Top 3% candidates ranking in Google Code Jams 2022.
- Third place in the Student Startup Innovation Challenge 2022.
- 1st Prize in Scientific Research Competition for HUCE Students.
- Scholarship for academic excellence awarded consecutively in 2021, 2022, and 2023.