Thanh Dat Le

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EDUCATION

Purdue University   West Lafayette, IN
Bachelor of Science in Computer Science, GPA: 4.00   *Expected May 2027*

EXPERIENCE

Teacher Assistant   Aug. 2025 – Present
The Data Mine - Purdue University   *West Lafayette, IN*
  − Served as **Product Manager** for a team of 10 students and a mentor from **Elevance Health** in a collaborative Purdue–Elevance Health project.
  − Applied **cybersecurity techniques** including DNS analysis, protocol inspection, TLS monitoring, and time-series ML for detecting malicious activity.
  − Handled **large-scale logging databases** with millions of entries weekly for anomaly detection.

Peer Tutor   Aug. 2025 – Present
Purdue University   *West Lafayette, IN*
  − Tutored students in **CS180, CS182, CS240** through individual sessions using collaborative learning methods.
  − Led **exam review sessions** with over 50 students actively participating per session.

Research Assistant   Nov. 2024 – Present
Purdue University   *West Lafayette, IN*
  − Conducting research on **forgery and deepfake detection** with **Dr. Shu Hu**, targeting academic publication.
  − Implemented **state-of-the-art computer vision models** for generative AI and multimedia forensics.
  − Participated in the **2025 1M-Deepfakes Detection Challenge** among 42 global teams, achieving **top 3 results (51% accuracy)** in deepfake localization.
  − Utilized **TACC HPC** for large-scale model training and inference on over **1M videos**.
  − Designed ML strategies for **highly imbalanced datasets** (98% real vs. 2% fake).

Undergraduate Data Science Researcher   Aug. 2024 – May 2025
The Data Mine - Purdue University   *West Lafayette, IN*
  − Developed a **data pipeline** using LLMs, computer vision, and chatbot to aid **Corteva scientists** in R&D.
  − Built **high-accuracy table extraction** and **layout detection models** to convert unstructured patent data, achieving **90% accuracy** on digital PDFs and **80%** on scanned PDFs.
  − Enhanced skills in **software engineering**, professional communication, and cross-disciplinary teamwork.

Admin, Developer, and Problem Specialist   Sep. 2024 – Present
CLAOJ (claoj.edu.vn)   *Long An, Vietnam*
  − Led **development and UI design** for CLAOJ, a competitive programming platform for students.
  − Authored **40+ original problems** for contests with over 200 participants nationwide.
  − Mentored top students preparing for the **Vietnamese Olympiad in Informatics (VOI)**.

PROJECTS

BSK All-In-One Clinic Management App | *Java Netty, Java Swing, SQL, Jasper Report*   Dec. 2024 – Present
  − Developed a **full-featured client-server application** serving over **2,000 weekly patients**.
  − Integrated with a medical-grade **$50,000 ultrasound machine** for real-time video streaming and data parsing.
  − Enabled **secure real-time image synchronization** for patients to access ultrasound results online.
  − Configured the clinic's local network and Windows environment for client-server deployment.

TDNEST E-Commerce Website | *Node.js, Express, Firebase, Google APIs*   Apr. 2024 – Present
  − Built a **full-stack e-commerce platform** from scratch for a local business.
  − Enhanced performance using **node-cache** and improved security with **JWT authentication** and **rate-limiting**.
  − Integrated **Google APIs** for automated order scheduling and email notifications.

HONORS AND AWARDS

ICPC North America Qualifier — *Top 18 Purdue*   Oct. 2025
Vietnamese Olympiad in Informatics (VOI) — *Honorable Mention*   Jan. 2024

TECHNICAL SKILLS

Languages: Java, Python, C/C++, JavaScript, HTML/CSS, SQL
Frameworks: Vue.js, Java Netty, LangChain, Node.js, Express.js
Developer Tools: Git, Docker, VS Code, IntelliJ, PyCharm, Jupyter, Anaconda, AWS, Firebase, MongoDB, Splunk