Duc Nguyen

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SPECIALIZATION: Backend, Cloud Computing, Deep learning

EDUCATION

Dickinson College **May 2025**
Degree (BS), Majors (Computer Science, Mathematics) Carlisle, PA

- Accumulative GPA: 3.9 Mathematics major: 4.0 Computer Science major: 4.0
- Relevant Coursework: Principles of Object-Oriented Design, Tools and Techniques for Software Development, Data Structures and Problem Solving, Topic in Decision Science, Computability and Complexity, Computing Abstraction, Operation Research, Analysis of Algorithm.

TECHNICAL SKILLS

- **Programming language:** Python, JavaScript, Java
- **Technology:** Pytorch, React.js, Redux.js, Node.js, Express.js, MongoDB, PostgreSQL, Vue.js, HTML, CSS
- **Miscellaneous:** Jest, Cypress, Docker, Git, Bash, GitHub Action
- **Cloud services**: AWS, Azure, Digital Ocean
- **Operating System:** Linux

WORK EXPERIENCE

VinBrain LLC **May 2023 – August 2023**
Machine Learning Engineer Intern Hanoi, Vietnam

- **VinBrain** focuses on AI products for healthcare such as software for automated X-ray diagnostics (vinbrain.net).
- Trained deep learning models for classification and segmentation tasks to detect anomalies on 2D chest images dataset using **Pytorch.**
- Improved code quality by refactoring **Python** scripts for preprocessing and calculating metric stage of the training pipeline, which reduced code size by **40 %.**
- Wrote documentation and debugged code for the rectal cancer project.

GoStream LLC **May 2022 - August 2022**
Software Engineer Intern Vinh, Vietnam

- **GoStream** 's products allow multi-platform livestream and manage online store (GoStream).
- Worked with the backend team and wrote API middleware for authentication of TikTok shop service using AWT token verification.
- Built task report web application for internal employees implementing Model-View-Controller backend architecture using tech stack **Vue.js, Express.js**, **Node.js, and MongoDB**
- Launched prototype on **AWS EC2** instance and automated **CI/CD** process with **GitHub Action**.

FarmData
Open-source contributor

- Collaborated with developers in a team and identified serious bugs in the application's user interface, including loss of display information when resizing the screen.
- Leveraged **Cypress** testing efficiency by creating functionality that allows logging to the terminal in headless mode.
- Wrote **Drupa**l scripts allow retrieving users' permission and role when login.
- Opened **2** issues and created **4** pull requests in upstream repositories.

Polymath Jr **May 2023 – August 2023**
Program participant Remote

- Polymath Jr is a collaborative mathematical research program for undergraduates (Polymath).
- Worked on project Survey in Theoretical Computer Science under the supervision of Daniel Hathcock of Carnegie Mellon University.
- Wrote survey on Maximum Matching problems.

PROJECTS

Dining service review (Github)

- Created a web application enabling college students to conveniently access the weekly menu and rate food items using descriptive keywords using **React.js, Redux, Express.js, Node.js, and MongoDB**.
- Created a content management interface that allows managers to organize weekly menus, and store image files in cloud platform **Azure Blob**.
- Deployed prototype on cloud service **AWS EC2**.

CheXpert Classification (Github **)**

- Created a comprehensive training workflow for conducting classification on a chest X-ray dataset encompassing five distinct classes with **(Pytorch)**
- Achieved highest mean AUC of **89%** when implementing the **Convolutional Neural Network (CNN**) model with **Densenet121** as a backbone.

SIIM-ACR segmentation (Github**)**

- Preprocessed dicom medical images of chest x-rays and built a training pipeline to identify and segment Pneumothorax disease in chest x-rays with (**Pytorch)**
- Implemented U-Net-like architectures (**UNet, ResUnet**) and achieved the highest average dice score of 80**%** with **U-Net** employing **ResNet34** as the encoder.