NGUYEN THAI HUY

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EDUCATION

Singapore University of Technology and Design (SUTD) Sep 2020 – Apr 2024
Bachelor of Engineering in Computer Science and Design (Honours)

- Focus track in **Data Analytics** with a minor in **Operations Research**.
- Obtained Honours List for Freshman and Sophomore term.
- Recipient of University Student Award Achievement for active contributions to Academics and CCAs.

WORK EXPERIENCE

University of Southern Denmark (Exchange Research Program) Feb 2023 – June 2023
Machine Learning Researcher

- Trained and deployed machine learning models for bicycle parking image classification on **AWS SageMaker** that achieve > 95% accuracy, detect bad parking behaviors with 0.9–0.98 precision scores.
- Proposed and built and backend for an in-house annotation platform using **Django REST** Framework and **Docker.**
- Performed experiments with RK1808 neural processing unit (NPU) for on-chip surface detection task on bicycles.

Singapore Institute of Manufacturing Technology (SIMTech) – A*STAR Sep 2022 – Jan 2023
Game Development Intern

- Developed a self-guided interactive VR tour of Model Factory at SIMTech.
- Implemented level design on 5 stages of the tour, each featuring a unique puzzle using **C#.**
- Fine-tune the VR gameplay mechanic, as well as cross-platform VR Interaction System in **Unity.**
- Contributed to future efforts to document systems architecture and flows for general and technical audiences.

Keywords Studio Singapore Sep 2018 – Jan 2022
QA Tester (Game Tester)

- Performed routine tests including smoke, divergence, full functionality test etc. by following test cases to ensure features worked as per designed using **TestRail.**
- Applied exploratory and destructive testing to find potential bugs and exploits in the game, and filled bug reports in **JIRA.**
- Effectively utilized Testing Tools to support QA team for daily regression checks (**Consoles, PS4 Neighborhood, MemoQ**).

ACADEMIC PROJECTS

Optimizing Maritime Efficiency with AI Sep 2023 – Apr 2024

- Led the development of an innovative AI-driven approach to maritime operations, significantly reducing the industry's carbon footprint through advanced analytics, as part of my final year group project.
- Utilized **Flask** for machine learning model storage and the creation of API endpoints to facilitate real-time data inference.
- Spearheaded the implementation of a dashboard using **React**, providing intuitive, real-time insights into model predictions and ship performance metrics, thereby enhancing operational efficiency and sustainability efforts.
- Leveraged **SQL** to optimize ship data storage and retrieval processes, ensuring efficient management of large-scale datasets.

Distracted Driver Detection using Computer Vision Models Sep 2023 – Dec 2023

- Embarked on a Computer Vision project to detect and classify distracted drivers based on their dashboard camera images.
- Implemented data augmentation techniques using Augmentor Library to enhance the diversity and robustness of the dataset of 120,000 images..
- Trained an advanced ensemble model by integrating Custom CNN, DenseNet, VGG-16, ResNet, and EfficientNet architectures using **OpenCV** and **Tensorflow**, achieving 92% accuracy and an F1 score of 0.91.

Estimation of Galaxies Clusters through Bayesian Approach Feb 2023 – May 2023

- Employed Bayesian inference techniques to analyze a dataset comprising of 820 galaxies in the Corona Borealis region and classify which clusters they belong to using **R.**
- Utilized Bayesian posterior distributions formula to model the relationship between the observed data (galaxies) and the latent variables (clusters).
- Conducted Gibbs sampling based on the observed data and the posterior distributions, obtaining a Markov chain that allows for estimation of latent variables corresponding to the observed data.
- Compared the computational efficiency of the implemented Bayesian approach with the EM algorithm, demonstrating a notable reduction in computation time by 15%.

Classification of Hate Speech using Machine Learning Model June 2022 – Aug 2022

- Designed and trained a custom Machine Learning model using **Scikit** for a dataset of 22,000 Twitter Posts, achieving an overall testing accuracy of ≈ 80% in classifying posts as either explicit hate speech, implicit hate speech or non-hate speech.
- Researched and tested multiple weight initializations, parameter values, as well as layer configurations that eventually improved the model's accuracy by ≈20%.
- Implemented autonomous features such as overfitting detection and auto-save in the training algorithm to enhance the model's performance and safeguard against unexpected stoppages during training.

Ascenda Hotel Booking System June 2022 – Aug 2022

- Developed multiple frontend web application components with frameworks such as **React.js, React Hooks, Redux** and implemented UI designs using **Ant Design, Bootstrap** and **CSS Styling** to enhance web applications.
- Managed API endpoints and databases for the applications using **Python, Django,** and **Django REST Framework.**
- Managed a team of 2 software engineers to run continuous code deployment using proper Git version-control system.

ORGANISATIONAL AND COMMITTEE EXPERIENCE

Model United Nation Organization Committee Nov 2018 – March 2019
Director of Logistics

- Collaborated effectively with Marketing and Sponsorship Team to conduct the session with positive feedback from delegates.
- Responsible for inventory ledger and reconcile against in-house accounting system.
- Managed day-to-day processing of accounts payable by **Excel**, ensuring all suppliers are paid within 30 days of invoice date.

International Mathematic Olympiad Sep 2017 – Jan 2018
Team Captain

- Led a team of 10 to represent Vietnam in the International Mathematic Olympiad.
- Coordinated with the Teaching Faculty in scheduling a suitable timetable for all 10 members, ensuring their full attendance.
- Boosted the achievement rate by 30% from last year, with 2 members attaining the 1st prize.

SKILLS & ADDITIONAL INFORMATION

- **Programming:** Python, SQL, C++/C#, Java, R, React.js.
- **AI/Machine Learning:** Scikit-Learn, PyTorch, TensorFlow.
- **General:** Proficient in Microsoft Office, with >5 years of experience in Microsoft Excel.