NGUYEN THAI HUY

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EDUCATION

Singapore University of Technology and Design (SUTD)   Sep 2020 – Present
Bachelor of Engineering in Computer Science and Design (Honours)
- Focus track in Data Analytics with a minor in Operations Research & Engineering Systems
- Obtained Honours List for Freshmore and Sophomore term.
- Recipient of University Student Award Achievement for active contributions to Academics and CCAs
- Expected graduation date: Apr 2024

WORK EXPERIENCE

University of Southern Denmark (Exchange Research)   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 and save US$200,000 annually.
- 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 VR Gamification that recreates a self-guided interactive tour of Model Factory at SIMTech
- Implemented 5 unique level design, gameplay mechanic, as well as cross-platform VR Interaction System using C#.
- Work on feature development and deployment of online services used in supporting game production pipeline.
- 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)
- Identified, isolated, and documented bugs clearly and concisely, ensuring a clean bug base.

ACADEMIC PROJECTS

Distracted Driver Detection using Computer Vision Models   Sep 2023 – Dec 2023
- Embarked on a computer vision project inspired by a Kaggle competition, leveraging the competition dataset comprising 79,700 dashboard camera images for training and 22,400 for testing.
- Implemented data augmentation techniques on the dataset using Augmentor Library to enhance the diversity and robustness of the training set.
- Explored the effectiveness of six distinct models in the image classification task: Custom CNN, DenseNet, VGG-16, ResNet, EfficientNet, and Ensemble Learning
- Achieved the lowest loss of 1.39 and F1 score of 0.94 from Ensemble Learning, emerging as the best-performing model.

Estimation of Galaxies Clusters through Bayesian Sampling & EM Algorithm   Feb 2023 – May 2023
- Applied Bayesian inference on a dataset of 820 galaxies in the Corona Borealis region and classify which clusters they belong to in 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 in R, obtaining a Markov chain that allows for inference of latent variables and mixing proportions.
- Suggested an alternative approach using EM Algorithm, cutting down computational time by 20%

Classification of Hate Speech using Machine Learning Model   June 2022 – Aug 2022
- Designed and trained a custom Machine Learning model using Scikit for a given dataset of 22,000 Twitter Posts, achieving an overall testing accuracy of $\approx 80\%$ 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 $\approx 20\%$.
- 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 Ascenda's web 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, MATLAB, HTML/CSS/JavaScript
- **AI/Machine Learning:** Scikit-Learn, PyTorch, TensorFlow
- **Game Engines:** Unity, Unreal Engine, Godot
- **Languages:** Fluent in written and spoken English and Vietnamese, familiar with conversational Japanese
- **General:** Proficient in Microsoft Office, with >5 years of experience in Microsoft Excel