Naaman **Tan**

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Computer Science undergraduate with experience in natural language processing and computer vision. Looking for data science roles to gain more experience developing deep learning models and pipelines. Creative and calm under pressure.

EDUCATION

National University of Singapore **Aug 2019 – May 2024**

Double Degree in Computer Science and Economics, University Scholars Programme, NUS Merit Scholar
Bachelor of Computing in Computer Science (CAP: 4.93/5.00 – First Class Honours), Dean's List AY 20/21
Bachelor of Social Science in Economics (CAP: 4.86/5.00 – First Class Honours)
Relevant coursework: Machine Learning, Database systems, Data Structures and Algorithms, Probability and Statistics

EXPERIENCE

Institute of Data Science, National University of Singapore **Aug 2021 – Present**

Undergraduate Researcher

- Conducting research and development of information fusion techniques for large-scale automated explainable fact checking.
- Exploring an integrated NLP/dynamic graph attention network to fuse contrasting evidence-claim pairs for claim verification.

DSO National Laboratories **May 2021 – Aug 2021**

Machine Learning Engineer Intern

- Conducted end-to-end research and development of deep learning workflows and network architectures for a radar image processing task that only has 3 instances of literature.
- Designed and implemented various deep learning architectures in TensorFlow 2.0 and PyTorch based on image segmentation, image super-resolution and image-to-image translation techniques.
- Conceptualised a creative multi-task learning approach to develop a model that achieves SOTA performance with 15x less data.
- Optimised data processing workflows with CUDA GPU acceleration and algorithm redesign. Speed ups up to 700x.

Nyx Intelligence **Jun 2020 – Jul 2020**

Part-time software engineering intern

- Created a web application as POC for larger scale automation for a government statutory board.
- Used ASP.NET MVC4, Vue JS. Webapp leveraged Entity framework (EF) Core through Visual Studio.

SKILLS, PROJECTS & COMPETITIONS

Languages: Python, C/C++, R, Java, JavaScript, HTML, CSS, PostgreSQL, MATLAB

Libraries/Frameworks: TensorFlow, PyTorch, OpenCV, scikit-learn, pandas, CUDA, React, Node.js, Bootstrap, Vue

Tools: Git, Docker, VS Code, JupyterLab, Tableau, Adobe Creative Cloud, LaTeX

Featured Projects/Competitions:

Minimalist Portfolio Website **Aug 2021**

- Minimalist interactive website hosted with GitHub pages built to showcase my projects and experiences.
- Built with React Bootstrap. Find it here: tanyjnaaman.github.io.

DJI RoboMasters Robotics Competition **Jul 2020 – Jun 2021**

Project Manager (Standard Robot) | NUS RoboMasters

- Team placed 4th globally (1st in SEA) for RoboMasters University Championship Online Competition.
- Led a sub-team of five in designing three semi-autonomous Standard Robots for 2021 DJI RoboMaster Competition.
- Developed cascade classifier algorithms and R-CNN models for object detection of moving targets for robot to shoot at, utilizing OpenCV2 and TensorFlow 2.0. Implemented in python and C++.

Asian Development Bank #DigitalAgainstCOVID-19 Hackathon, Digitizing Waste **Jun 2020 – Aug 2020**

Team Lead

- Led a multidisciplinary team of four to a top 10 place as the youngest finalist among 140+ international teams.
- Devised a novel recycling solution through a mobile app built on machine learning and supply-demand matching.
- To prove concept, implemented a waste classification model based on MobileNet in TensorFlow 2.0 and a simple p2p matching system with Kinetica API. Also built a UI/UX wireframe with Figma and Adobe XD.

CERTIFICATIONS & COURSES

CS50's Introduction to Artificial Intelligence (Python), Harvard University EdX **Dec 2020**