Amadeus Aristo Winarto

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EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE **Aug 2020 - May 2024 (expected)**
Bachelor of Computing (Honours), Computer Science with a Second Major in Mathematics
Current Coursework: Programming Methodology II, Data Structures and Algorithms, Probability
Relevant Courses: Programming Methodology I, Discrete Structures, Linear Algebra I, Calculus for Computing
Cumulative GPA: 5 / 5

HWA CHONG INSTITUTION (HCI) **Jan 2018 - Nov 2019**
GCE A Level Certificate, University Admission Points: 90/90
Relevant Courses: H2 Physics, H2 Chemistry, H2 Mathematics, H3 Mathematics

WORK EXPERIENCE

BIOINFORMATICS INSTITUTE, A*STAR **Apr 2018 - Aug 2020**
Research Intern
• Led team of 3 students to research on geometrical properties of decision boundaries of deep learning (DL) classifiers
• Partnered with 4 postgraduates to develop approach to apply fractal analysis on high-dimensional geometrical objects

CO-CURRICULAR ACTIVITIES

HORNET TRAINING PROGRAMME **Aug 2020 - Present**
Software (Control) Team Member National University of Singapore
• Utilised PID Controller for control of 6 DOF autonomous underwater vehicle
• Implemented communication protocol between Linux-based Single Board Computer and Arduino micro-controllers using ROS and CAN bus protocol

INFOCOMM AND ROBOTICS SOCIETY **Mar 2018 - Jun 2019**
Division Head Hwa Chong Institution (College)
• Initiated a machine learning (ML) division to educate students in ML and DL concepts
• Mentored 30+ students on basic Bayesian approaches for prediction

COMPETITION EXPERIENCE

NUS LIFEHACK DATATHON **Jun 2020**
Third Place
• Collaborated in team of 2 to implement deblurGAN to improve malaria cell counting systems

ROBOCUP JUNIOR INTERNATIONAL ONSTAGE ADVANCED CATEGORY **Apr 2019 - Jul 2019**
Champion
• Developed an automated musical score-reading system to detect notes and its tempo in a printed musical score sheet. Synthetic musical scores with appropriate corruptions to simulate real-world conditions are generated to fine-tune a deep learning object detection model, and then a separate note reading system based on LSTM is used to read the notes and its tempo.

SINGAPORE SCIENCE AND ENGINEERING FAIR **Jan 2019 - Mar 2019**
Gold Medal
• Collaborated in team of 2 to introduce a novel deep learning-based approach for acne severity grading based on facial images. Presented to and conferred gold medal given to top 25 teams out of 200+ teams

PUBLICATIONS

• Ngo, CP, Winarto, AA, et al. **Fence GAN: Towards Better Anomaly Detection**. In Proceedings of the 2019 IEEE 31st International Conference on Tools with Artificial Intelligence (ICTAI) [**Paper**]
• Lim, ZV, Akram, F, Ngo, CP, Winarto, AA, et al. **Automated grading of acne vulgaris by deep learning with convolutional neural networks**; Skin Res Technol. 2020 [**Paper**]

TECHNICAL SKILLS

• **Programming:** Python, C++, JavaScript, MATLAB
• **Front-end:** Bootstrap, React, Redux, HTML, CSS
• **Machine Learning:** PyTorch, TensorFlow, Keras, Numpy, Scikit Learn, Matplotlib, Seaborn
• **Other Technologies:** Arduino, Linux, Git, Robot Operating System, Gazebo

HONORS

- ASEAN Undergraduate Merit Scholarship
- Hwa Chong Diploma with Distinction (Top 25% out of 1200 Junior College students)
- Hon Chew Weng Science Research Award (Highest achievement in scientific research)
- ASEAN Pre-University Scholarship