

Amadeus Aristo Winarto

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EDUCATION

NATIONAL UNIVERSITY OF SINGAPORE

Aug 2020 - Present

- Bachelor of Computing in Computer Science with a Second Major in Mathematics
- Expected Date of Graduation: May 2024

HWA CHONG INSTITUTION (HCI)

Jan 2018 - Nov 2019

- GCE A Level
- Achieved 6 As for Mathematics, Physics, Chemistry, Economics, General Paper, and Project Work

WORK EXPERIENCE

ONE2TUITION

Jan 2020 - Present

Tutor

- Conducted one-on-one lessons for 2 upper secondary level students on seven different subjects
- Tailored and executed curriculum according to student's learning abilities, boosting results by up to 3 grades

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 Team Member

National University of Singapore

- Utilised PID Controller for control of 6 DOF autonomous underwater vehicle
- Implemented communication protocol between Single Board Computer and micro-controllers

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
- Proposed ML and DL techniques for control systems and sensor fusion

COMPETITION EXPERIENCE

NUS LIFEHACK DATATHON

Jun 2020

Third Place

- Collaborated in team of 2 to implement an image de-blurring system to improve malaria cell counting systems
- Presented to judges and conferred third place out of >25 undergraduate teams in various years of studies

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 musical score sheet
- Engineered custom data transfer protocol between devices in a team of 5

SINGAPORE SCIENCE AND ENGINEERING FAIR

Jan 2019 - Mar 2019

Gold Medal

- Collaborated in team of 2 to introduce novel DL approaches 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 Languages:** Proficient in Python, LaTeX, C++, HTML. Novice in JavaScript, CSS, React
- **Libraries:** PyTorch, TensorFlow, Keras, Numpy, Scikit Learn, Matplotlib, Seaborn, Bootstrap
- **Other Technologies:** Arduino, Linux, 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)