

# AARON ASHWIN RAJOO

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**SKILLS** | **Technical skills:** HTML, CSS, JavaScript, React, NodeJS, Java, Python, C, C#, C++

**Interpersonal skills:** Inquisitive, Proactive, Adaptable

## WORK EXPERIENCE

May 2022 – Jul 2022

**MACHINE LEARNING INTERN, MAKINO ASIA GROUP**

Trained a Bidirectional Gated Recurrent Unit (BGRU) Neural Network model to predict final surface conditions and operation time for the Wire EDM (WEDM) machines given certain machining conditions.

Preprocessed data with various techniques like data cleaning, normalisation, one-hot encoding, data inversion with pandas and numpy, and formatted data to 3D Tensor inputs for ML.

Feb 2018 – Apr 2018

**ELECTRONIC SYSTEMS INTERN, DEFENSE SCIENCE ORGANISATION (DSO)**

Developed a prototype of an Alert System that detects anomaly and alert a hierarchy of subscribed users through Telegram Bot API.

## PROJECT EXPERIENCE

Aug 2022 – Present

**CERVICAL LANDMARK DETECTOR, NATIONAL UNIVERSITY OF SINGAPORE**

Worked on an AI-Machine Vision project in collaboration with NUH to automate a solution to enhance first-level diagnosis of airway difficulty.

Preprocessed a small set of 2000 images with labels, then implemented semi-supervised learning with PIPNET to iteratively train a model by pseudo-labelling more than 20000 unlabeled images, to achieve a final predictive accuracy of 3% of relevant neck features.

Nov 2020 – Nov 2020

**SCAMCHECK APPLICATION, NATIONAL UNIVERSITY OF SINGAPORE**

Developed an application to tackle romance fraud by recognizing scam elements in messages to warn, prompt and assist users to take relevant actions.

Apr 2017 – Aug 2017

**SOFT MATERIAL ENERGY HARVESTER, NATIONAL UNIVERSITY OF SINGAPORE**

Developed a Dielectric Elastomer Generator to leverage on mechanical energy to amplify small voltage inputs from piezoelectric to be harvested.

May 2017 – May 2017

**REMOTE CROP PROTECTION FROM WILD ANIMALS, NIT-KUMAMOTO UNIVERSITY, JAPAN**

Collaborated as an international team to prototype a solution for Suematsu Electronics Co. Ltd to remotely detect and deter wild animals from attacking farmers' crops.

<b>EDUCATION</b>	Aug 2020 – May 2023 <b>National University of Singapore</b> Undergraduate in <b>Mechanical Engineering</b> , Minor in <b>Computer Science</b> Current GPA: 4.21/5.00	Apr 2015 – May 2018 <b>Ngee Ann Polytechnic</b> Diploma in <b>Engineering Science</b> Cumulative GPA: 3.93/4.00
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<b>LEADERSHIP EXPERIENCES</b>	<b>Executive Committee – Quartermaster</b> , NP Guitar Club	April 2015 – April 2018
	<ul style="list-style-type: none"> <li>Performed, managed food catering and handle ticket sales for biannual concerts of 400 people and training camps of 200 people.</li> <li>Liaised with the school and external vendors to purchase and allocate equipment to a club of 60 students.</li> <li>Handled publicity and recruitment of 60 new members annually.</li> </ul>	
	<b>Ambassador – School of Engineering</b> , SoE Rangers	April 2016 – April 2018
	<ul style="list-style-type: none"> <li>Facilitated large and small-scale events such as open-houses and Math's Challenges organized for prospective secondary school students.</li> <li>Student leader for International Symposium on Advances in Technology Education (ISATE) 2017 to facilitate and share to various higher education institutes innovative teaching methodologies and practices in Ngee Ann Polytechnic.</li> </ul>	

<b>COMMUNITY SERVICE</b>	<b>Ng Teng Fong General Hospital</b>	April 2016 – Dec 2016
	<ul style="list-style-type: none"> <li>Volunteered for monthly visits with a group of NP Strings members to perform for the patients in the wards.</li> <li>Performed for Arts&amp;Health 2016 by JurongHealth.</li> </ul>	

<b>AWARDS</b>	<b>DSO Diploma Scholarship</b>	Oct 2017 – May 2018
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