

# Julio Hernando Wongso

Electrical engineering , Data Science, Finance, Embedded, Full Stack Development

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📍 Singapore/Jakarta



## LANGUAGES

<b>English</b> Native/ Professional	●●●●●	<b>Bahasa Indonesia</b> Native/ Professional	●●●●●
<b>Chinese</b> Written and Spoken	●●●●●	<b>Teo Chew</b> Spoken	●●●●●

## EDUCATION

### Electrical Engineering and Computer Science

**KTH Royal Institute of Technology** 📅 01/2020 - 07/2020

- Graduate level courses in **Machine learning, Advanced controls, High Frequency electronics** and **Entrepreneurship Innovation**.

### Electrical Engineering with Minor in Physics - B.Eng Honours with Distinction

**National University of Singapore**

📅 08/2017 - Ongoing 📍 Singapore

- Invited to and joined **IEEE Eta Kappa Nu Honor Society** for Academic excellence
- Specialization in **Advanced Electronics**
- Represented school in Singapore Autonomous Underwater Vehicle Challenge (SAUVC)
- Served as **NUS Student Union Business Committee Executive** (NUSSU BIZCOM)
- Served as **PINUS Public Relations Director**
- Served as **Residence Cluster Leader**
- Invited as **Teaching Assistant** for programming module

GPA  
**4.39** / 5.00

### International Honors Program

**Stanford University** 📅 06/2018 - 08/2018 📍 U.S.A

- CS106B Programming Abstractions (**Data Structures and Algorithms**)
- EE102A **Signals and Systems**

GPA  
**3.3** / 4.0

### International Baccalaureate Diploma

**Anglo-Chinese School International**

📅 03/2015 - 12/2016 📍 Singapore

- Experimented for a **project to tackle problems on food storage** under supervision of Pepsico R&D Principal Scientist as Junior Member of New York Academy of Science.
- Principal's Commendation for Achievement**
- Bronze medal** and Research Award from NJRC
- Represent **Singapore National Chemistry Olympiad**
- National Physics Olympiad (OSN)**
- Tennis and chess club

GPA  
**40** / 45

## REFERENCES

**Hans Sebastian, CTO JULO Finance**

hans@julo.co.id  
+628159147752

**Deval Mehta Samirbhai, Ph.D. Senior R&D Engineer**

deval.mehta@IBM.com  
+61403240082

## EXPERIENCE

### Machine learning engineer (final year project attachment)

**AI Singapore**

📅 08/2020 📍 Singapore

Development and deployment of state-of-the-art computer vision models.

- Developed semantic segmentation and instance segmentation data pipeline
- Implemented Panoptic FPN, Res2Net, and YOLACT models in Keras and PyTorch from research papers

### Research engineer intern

**NUS Computational Nanoelectronics & Nanodevices Lab**

📅 06/2020 - 08/2020 📍 Singapore

Developed Spintronics simulation software for design of novel electrical component with Spin Torque Transfer (STT).

- Researched scientific journals and tools to tackle design problems

### Software firmware engineer intern

**Hewlett Packard Enterprise**

📅 08/2019 - 12/2019 📍 Singapore

Test and develop firmware for networking devices.

- Involved in proprietary Aruba OS-CX Network Operating System development project
- Implemented full stack web development project used for regression test framework with MEAN stack (Nest and Vue JS)
- Developed SNMP implementation
- Developed IEEE1588 PTP (Precision Time Protocol) test suites for new Aruba platforms
- Developed feature, unit, and component tests for continuous integration framework

### Research engineer intern

**Panasonic Research and Development**

📅 05/2019 - 07/2019 📍 Singapore

Deep learning and computer vision: Investigate and test state-of-the-art technologies for semantic segmentation in autonomous vehicles as well as pose recognition models.

- Audited Stanford Master's level course CS231N
- Data preprocessing and data augmentation
- Introduced and maintained docker images to achieve 30% reduction in model training time
- Created a benchmarking tool for proprietary model deployed on an embedded platform
- Created C++ wrapper for C-based framework to aid AR project
- Model pruning, quantization, and optimization to enhance performance

## COURSES

Data Science and Internet of Things	Bloomberg BMC and Financial Markets
Big Data Analytics Using Spark	Product Management with Lean, Agile and System Design Thinking
Artificial Neural Networks and Deep Architectures (Data Science)	Supply Chain Fundamentals
Fabrication Process Technology	Microelectronics Materials and Devices
Microwave Circuits & Devices (High Frequency Electronics)	Microcontroller Programming & Interfacing
Solid State Physics	Modern Transistors and Memory Devices
Advanced Control Systems	AWS Cloud Practitioner Essentials

## SKILLS

### Software

Microsoft Office Suite	Python	C	C++	Git	SQL
Ruby	Bootstrap (HTML&CSS)	Web scraping	beautiful soup		
MATLAB	Computer Vision (OpenCV)	Assembly			
Shell Scripting	Data visualization	Data engineering	Go		
Data augmentation	Docker	Pytorch	Tensorflow		
Scikit-Learn	Pandas	Apache Spark	R	Photoshop	
Figma for UI/UX	Tableau	AWS	NodeJS	Django	Flask

### Hardware/Engineering

FPGA	Verilog	Microcontroller Programming	UART	I2C
GPIO	Arduino	SDR	GNURadioCompanion	Filter design

## AWARDS

National Science Olympiad (Physics) Finalist	Principal's Commendation Certificate for Achievement
International Major Entrance Scholarship UBC	Sevilla Science Competition Silver Medal
MOE Tuition Grant Award	NJRC Bronze Medal and Research Award

## EXPERIENCE

### Software engineer intern (backend)

#### JULO Finance

📅 12/2018 - 01/2019 📍 Jakarta, Indonesia

JULO is a digital lending company employing proprietary credit underwriting and risk assessment technology, winning awards from UNCDF and Indonesian Monetary Authority (OJK).

- Responsible for endpoint integration of external API
- Automate workflows for operations team
- Maintenance of chat-bot and automated sms/email send service
- Bug discovery and fixes
- Created functional script to process customer blacklist in network

## HARDWARE PROJECTS

### Semantic segmentation for autonomous car

Implemented and enhanced LaneNet for lane semantic segmentation in autonomous car.

### Fitness tracker

Fitness Tracker prototype using Cortex-M3 microcontroller (Assembly and C) with sensor and actuator interfacing through I2C, GPIO. Also implemented UART connection with X-Bee for logging purposes.


### Autonomous underwater vehicle

Arduino MODBUS programming for actuator and thruster for SAUVC.

### Piano and voice recorder

FPGA BASYS3 programming with verilog for EE2026 NUS module.

## ONLINE PROFILE

 **Personal Website**  
hernandope.github.io

 **LinkedIn**  
<https://www.linkedin.com/in/julio-wongso/>

 **GitHub**  
<https://github.com/Hernandope>