Christabella Irwanto

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A computer scientist and software engineer by training, I am currently pursuing graduate studies in machine learning. At the university, I am taking a breadth of courses to build a strong foundation, and exploring potential areas of specialization. I strive for thoughtful design, effective communication, elegant code, teamwork, and impact.

EDUCATION

Sep 2018 - Present
Aalto University, Finland
Master of Science in Machine Learning, Data Science and Artificial Intelligence (Macadamia)
- Coursework includes data mining, stochastic modelling, Bayesian analysis, and reinforcement learning.
- Conducting research in the privacy implications of adversarially trained deep learning models.

May 2018
PRAIRIE Artificial Intelligence Summer School (PAISS) by Inria and NAVER LABS, France
Attended practical sessions and lectures by renowned experts in different areas of artificial intelligence.

May 2014 - Aug 2017
Singapore University of Technology and Design (SUTD), Singapore
Bachelor of Engineering in Info Systems Technology and Design; specialisation in Artificial Intelligence
GPA 4.13/5.0 magna cum laude, SUTD-MIT Global Leadership Programme Scholarship
- Summer Exchange at **Massachusetts Institute of Technology, United States (May - Aug '15)**
- Semester Exchange at **KTH Royal Institute of Technology, Sweden (Aug '16 - Jan '17)**
  - Took master's courses including Advanced ML, Advanced Algorithms, AI, and Computer Vision.

WORK EXPERIENCE

Sep 2017 - Aug 2018
Carousell, Software Engineer, Singapore • 1 yr
- During my time in advertising, the team doubled in size and became the dominant source of revenue.
- Built up a scalable advertising microservice with Go, PostgreSQL, Redis, RabbitMQ, Protobuf, and Docker.
- Developed features for a React web app in JavaScript, and for the core back-end Django service in Python.
- Delivered a big data processing Dataflow pipeline in Java, a mobile feature in React Native, and a tool to generate and visualize neural network embeddings with TensorFlow's Embedding Projector in Python.
- Learnt best practices for Scrum, code review, testing, continuous delivery, and deployment.

May 2016 - July 2016
Traveloka, Software Engineering Intern, Jakarta • 3 mos.
Fully built and shipped two internal tools with Java, Apache Velocity, Play, MongoDB, AWS, and JavaScript.

Jun 2015 - May 2016
(these)abilities, Co-founder and Head of Software Development, Singapore • 1 yr
Used computer vision to segment keyboards; Built website, blog, and forum app for disability communities.

PROJECTS

2018
Deep learning for molecular graphs, Artificial Intelligence in Health Technologies, Aalto University
Predicting solubility of drug compounds from molecular graphs with deep learning techniques in Python.

2018
Q-learning on Cartpole and LunarLander, Reinforcement Learning, Aalto University
Implemented Q-learning with radial basis functions and stochastic gradient descent in OpenAI gym.

2018
Music genre classification, Machine Learning Basic Principles, Aalto University
Implemented and evaluated ML models with scikit-learn and Tensorflow for Kaggle competition.

2017
Inventory demand forecasting dashboard for Singapore Airlines, Final Project, SUTD
Wrote Vue.js frontend and Phoenix API; built data processing and modelling pipeline in R and Python.

2017
Geospatial research tooling, Spatial Networks Research Lab, SUTD
Worked on a JavaScript API, Vue.js UI, and provisioning of Elasticsearch clusters with Terraform.

2016
Prime Factorization Project, Advanced Algorithms, KTH
Implemented Eratosthenes Sieve, Pollard's rho, Fermat's method, and randomized variants in C++.

2016
Reimplementation of Breiman's 'Random Forests' Paper, Advanced Machine Learning, KTH
Implemented and analyzed decision tree classifier bagging technique from scratch in Python.

AWARDS AND HONOURS

2012-2018 **Various projects at 16 hackathons, 9 awards, various locations**
E.g. NLP-powered music video generator, Google Assistant skill, Alexa app, video chat web app, AR app.

2017 **Women Techmakers Scholars Program (Google Anita Borg Memorial Scholarship Program)**
One of 12 from Southeast Asia; attended 3-day professional and personal development retreat in Seoul.

2017 **Google Code Jam to I/O for Women**
Scored top 150 in global algorithmic programming contest; received funding to attend Google I/O 2017.

TECHNICAL SKILLS

	Proficient in:	**Familiar with:**
Languages	- Python, JavaScript, Go	- C/C++, Java, R, Shell, MATLAB, Emacs Lisp, Arduino
Tools	- Git, Emacs, scikit-learn	- Tensorflow, Vue.js, Django, Node.js, React
Topics	- Machine Learning, Algorithms, Unix, Full-stack web development	- Networking, Security, Computer Vision, Graphics, Web accessibility

TEACHING

2018 **Introductory workshop to web accessibility (a11y)**, facilitator, JSConf.Asia 2018
2018 **Competitive programming workshop**, solo instructor, Google International Women's Day Student Summit
2017 **Competitive programming and unconscious bias busting**, main instructor, SUTD (University)
2016 **Design thinking and rapid prototyping for mobile accessibility**, main instructor, Grab Lab 8-workshop series
2015 "**Ethical Hacking"**, co-instructor, Dunman High School
2015 "**Programming with Scratch"**, co-instructor, The British Club
2014 "**Computer Studies"**, solo instructor, Raffles Institution

LANGUAGES

	Proficient	**Conversational**	**Basic**
Speaking	English	Chinese, Indonesian	Japanese