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Jing Zhou

MSc in Machine Intelligence

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Passionate, self-motivated problem solver with proven ability in both leading projects and integrating within a team of specialists. An MSc graduate from the University of Southampton in Machine Intelligence for Nano-Electronic devices. I pride myself in adapting to challenges through continuous learning and analytical thinking, as opposed to limiting myself to my current capabilities. I thrive in innovative and sociable work environments.

Skills

Programming	Python, C, MATLAB, SQL, Git, Bash
General	Agile Project Management, Presentation, Writing
Quantitative Research	Machine learning algorithms, Data Modeling & Visualization, PyTorch
Languages	English(fluent), Chinese, Cantonese(native)
Certifications	The Ultimate MySQL Bootcamp: Go from SQL Beginner to Expert

Projects

Individual Project: Squeeze and Exciting Network for ResNet CNN **DEC 2021 — FEB 2022**
MINDS Centre for Doctoral Training *Southampton, England*

- Investigated the impact of Squeeze-and-Excitation(SE) Network on CNN performance.
- Developed a SE-ResNet network using PyTorch, designed training regime and trained the model on Iridis compute cluster.
- Discovered an average of 5.5% boosting effect of SE block on ResNet-18, produced an evaluation report. .

Construct a Simulating Platform for Robot Active Audition, *Research student* **JUL — OCT 2021**
MINDS Centre for Doctoral Training *Southampton, England*

- Planning and prototyping for a robotic simulator rendering multi-modality sound scene for event localisation.
- Developed interface to Miro-E model and room acoustic model of BRAS data set in Panda3D, python-soundfile on Linux.
- Evaluation with measured sound signals, produced evaluation report on the rendering quality
- Produced notes for integration with real-time signals and deployment to Miro-E robot.

Group Project: Binarised Neural Network for Hearing Devices, *Research student* **MAR — JUN 2021**
MINDS Centre for Doctoral Training & Audio Analytic *Southampton, England*

- Investigated the performance of different ML models for sound event detection (SED) tasks.
- Developed a Binary Neural Model(BNN) with teammates from a winning model and dataset of DCASE 2017 using TensorFlow, Keras and Larq libraries in Python.
- Researched and employed a Binary optimizer that reduced 95.5% of the model size from the full precision model with only 5% performance drop at $f1$ score.
- Produced a detailed report for the client and showcase presentation.

Work Experience

Control Systems Engineer **JUN 2019 — JUL 2020**
Shenzhen Probe Science & Technology Co., Ltd. *Shenzhen, China*

- Developed and maintained software within embedded control systems for medical equipment
- Identified the technical challenges and scoped the projects with client requirements.
- System analysis and troubleshooting, constructed the infant mode of ventilator for launching before the pandemic, leading to over $\$1.2M$ revenue.

ACADEMIC

Master of Science in Machine Intelligence for Nano-Electronic Devices and Systems, *MINDS CDT, University of Southrampton* April 2022
- Relevant course: Foundation of Machine Learning, Reinforcement and Online Learning, Deep Learning

Master of Science in Advanced Control and Systems Engineering, *University of Sheffield* Nov 2018
- Relevant courses: Intelligent and Vision Systems, Multisensor and Decision Systems, Signal Processing and Estimation
- Key achievement: Distinction

Bachelor of Science in Communication Engineering, *Dalian Maritime University* July 2016

Graduate Student Membership, *IEEE* 2021 — Present

Activities

MINDS CDT Hackathon 2021 at Thales UK, Student Developer — Spring 2021
Sheffield Uni Students' Union, Graduate Student Councilor — 2017 — 2018
Royal Voluntary Service, Student Volunteer — Summer 2018