Zhaoguang Yi
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Education

Sept. 2022 — Present, The University of Edinburgh
MSc Artificial Intelligence

Coursework Projects:

- Implemented a deep-learning Python package, including regularization, batch-norm and other basic functions.
- Trained a VGG32 on the COCO dataset, with batch normalization and residual connection, implemented with Pytorch.
- Trained logistic regression model for NLP tagging and BIO constrain using the Viterbi algorithm.
- Fine-tune a BERT for tagging and intent classification.
- Implemented a robotics python package for forward kinematics, inverse kinematics and interpolation, generate trajectories and run on a Nextage robot.

Aug. 2020 - Jun. 2022, The University of Edinburgh
BEng Electronics and Electrical Engineering, First Class with Honours

Coursework Projects:

- Designed optical communication receiver circuits using LTspice.
- Designed a multi-stage delta-sigma modulator for HiFi Audio.
- Designed an HDR Pixel Circuit, simulated and layout in Cadence.
- Operated generators for grid connection.
- Implemented a Scientific Calculator on an FPGA.
- Proficient in the use of oscilloscopes, soldering, etc.

Sep. 2018 - Jun. 2020, North China Electric Power University (NCPEU)
BEng Electronics and Electrical Engineering (2+2), Avg: 85%

Activities:

- Student Union Chairman of School of International Education.
- Hosted several campus parties and contests.
- Gained patronages of 4500 CYN for the Union.

Experience

Aug 2021 - May 2022, *3D Electrical Impedance Tomography Image Reconstruction, Institute for Digital Communications, the University of Edinburgh*
Responsibilities:

- Developed a new 3D-EIT reconstruction method based on deep learning and achieving state-of-the-art results.
- As the first author, made a publication TNNet: A Learning-Based 3D EIT Image Reconstruction Method.
- Presented work and answered questions during the conference.
- Generated 3D-EIT measurement datasets using COMSOL and Matlab.

May 2021 - Aug 2021, *Remote Lab Intern*, Prof. Timothy Drysdale's remote labs, the University of Edinburgh
Responsibilities:

- Gained proficiency in using ssh to operate Linux systems and the basic Unix toolkit (grep, vim, tmux, etc.). Learn knowledge about networking (port, domain, IP, mac, etc.)
- Assembled a 3D printer, and build a Raspberry Pi-controlled microscope open-sourced from the University of Bath. 3D design with Fusion 360.
- Photographed and created several colourful container-texture stickers of the next-generation enclosures for the remote labs using Photoshop.
- Gained experience in operating CNC lathes, and laser cutting machines.

Aug 2019, *Volunteering Official of the Government Representation*, Expo 2019
Responsibilities:

- Drafted speech references for representatives of government officials and translated them into English.
- Gained experience communicating with staff, supervisors and officials.
- Got experience in setting up venues and receptions during multiple ceremonies.

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Jan 2019 - Feb 2019, *Principal Lecturer*, Adream Foundation
Responsibilities:

- Taught Mixly-based embedded system programming to teenagers.
- Gained experience in planning and preparing courses from scratch
- Gained experience getting on with the young, stimulating interest in learning.

Awards/Scholarships

2021, *Edinburgh Award (Work Experience)*, University of Edinburgh

2020, *University level outstanding Youth League branch cadres*, NCEPU

2019, *University level outstanding Youth League branch member*, NCEPU

2019, *University level excellent Social activities Report*, NCEPU

2020-2021, *2+2 Scholarship*2*, University of Edinburgh

2018-2019, *Third Class Scholarship*2*, NCEPU

Certifications

- National Computer Rank Examination (Level 2) (C Language): 84
- IELTS: 7.0, CET4: 505, CET6: 485

Publication

- Zhaoguang Yi, Zhou Chen, Yunjie Yang. TNNet: A Learning-Based 3D EIT Image Reconstruction Method. The International Conference of Bioelectromagnetism, Electrical Bioimpedance, and Electrical Impedance Tomography. June 28 to July 1, 2022 Kyung Hee University, Seoul, Korea

Softwares/Libraries

Programming
Python (Main) | Matlab | C | Shell | HTML | CSS | Latex | Verilog

Machine Learning
Pytorch (Main) | Tensorflow (Keras) | scikit-learn

Data Science
Numpy | Pandas | Matplotlib | SQL

Circuit Simulation/Layout
Cadence | Simulink | LTspice | Multisim | Pybullet

Web
playwright | bs4 | streamlit

Design
Fusion 360 | After Effects | Solid Works | Photo Shop | Premiere | Stable Diffusion

OS
Linux (Arch & Debain), Macintosh, Windows

Skills

- Machine Learning and Deep Learning
- Accelerated Natural Language Processing
- Reinforcement Learning
- Robotics, Optimization
- PCB Layout(Cadence)
- Analog & Digital Circuit Design (Basic) and Validation, DAC design