Susu Hu

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EDUCATION

Master of Science in Computational Modelling and Simulation **2019 - 2023**

Dresden University of Technology, Germany **GPA 2.1**

- Relevant coursework includes machine learning, computer vision, stochastic and probabilities, statistics, data visualisation
- Granted with SECAI scholarship for excellent students in artificial intelligence
- **Thesis**: neural fields learning for 3D reconstruction and non-rigid registration on medical data

Bachelor of Science in Logistics Engineering **2009 - 2013**

Nanjing Agricultural University, China **GPA 2.2**

- Relevant coursework includes computer science basics, natural science and engineering basics
- Granted with merit student scholarship

WORK EXPERIENCE

AI for Health, Research Assistant **Nov 2022 - May 2023**

National Center for Tumour Disease, Dresden, Germany

- Implemented weakly supervised medical image segmentation on internal pancreas dataset for region-of-interest of biomarker extraction

2D/3D Signal Processing, Research Assistant **Apr 2022 - Sep 2022**

Fraunhofer IPA, Stuttgart, Germany

- Automated 3D data acquisition and measurement from sensors
- Quantified the advantages of diverse sampling over uncertainty sampling in active learning for image labelling
- Evaluated different one-shot object tracking methods on internal dataset

Neural Network Quantization, Research Assistant **Aug 2021 - Feb 2022**

Fraunhofer IPMS, Dresden, Germany

- Explored different neural network architectures, topologies and precision levels for the quantization of neural networks from 32-bit floating points to 8-bit and lower
- Optimized quantization based on the comparison of the performance metrics and hardware resources utilized

Software Developer, Working Student **Jun 2021 - Feb 2022**

Robotron, Dresden, Germany

- Backend machine learning software development for computer vision tasks for industrial quality control
- Researched and evaluated state-of-the-art methods for given tasks and implemented with real-life dataset from customers and benchmarked results

PROJECTS

Gaussian processes and neural networks **Sep 2020 - Mar 2021**

Dresden University of Technology

- Studied Gaussian processes mathematical theories and implemented convolutional and non-convolutional Gaussian processes on image classification tasks
- Experimented with second derivative and first derivative optimization methods. Approximated posterior distribution via variational inference method (minimising KL-divergence) and exploited sparse Gaussian processes to improve computation efficiency.

Tractography scientific visualisation **Apr 2020 - Sep 2020**

Dresden University of Technology

- Studied techniques of tractography and implemented scalar and spherical colour mapping on brain fiber tracts based on diffusion measurement of free water in the brain

PUBLICATIONS

Layer Sensitivity Aware CNN Quantization for CIM Architectures

2022 International Conference on Soft Computing & Machine Intelligence

SKILLS

Python: PyTorch, OpenCV, open3D, Pandas, Keras, TensorFlow, scikit-learn, Huggingface, FastAPI, JAX etc.

DevOps: Git, Linux, Docker, Microsoft Azure, slurm

Others: C/C++, blender, R, SQL

LANGUAGES

English - C1, German - A2, Chinese - native speaker