

YUFENG GU

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EDUCATION

Zhejiang University, Hangzhou, China

Sept. 2016 – June 2020

- **B.Eng.** at College of Information Science and Electronic Engineering (expected)
- **Major:** Information Engineering **Minor:** Advanced Honor Class of Engineering Education (Honor)
- **GPA:** 3.97/4.00, 89.66/100 **Ranking:** 7/313 (2% in Department) 6/138 (5% in Major)

RESEARCH EXPERIENCE

Image Processing and Analysis Group (IPAG) Supervisor: Prof. James Duncan

Yale University, CT, USA

- Interpretation on ASD with fMRI and Deep Learning Models *Nov. 2019 – Mar. 2020*
 - Applied Long Short-Term Memory (LSTM) – Variational Autoencoder (VAE) on ASD classification.
 - Built multi-layer perceptron (MLP) models for brain fMRI classification with federated learning strategy.
 - Used differential privacy and kept different datasets locally for privacy protection.

Parallel Systems Architecture Lab (PARSA) Supervisor: Prof. Babak Falsafi

EPFL, Switzerland

- QFlex Simulator *July. 2019*
 - Build CMake compilation for QFlex simulator
 - Patch for GCC-8, Boost Library and Travis-CI code formatting test
- Optimization on Activation Functions for DNN Accelerator *Aug. 2019 – Sept. 2019*
 - Applied custom activation functions on both forward training and inference in LSTM Network.
 - Optimized hyperbolic tangent and sigmoid with second-order polynomial approximations and lookup table for both forward computation and backpropagation.
 - Designed digital implementation of corresponding activation functions in Verilog HDL.

PUBLICATIONS

- Xiaoxiao Li, Yufeng Gu, Nicha Dvornek, Lawrence Staib, Pamela Ventola, James S. Duncan. Multi-site fMRI Analysis Using Privacy-preserving Federated Learning and Domain Adaptation: ABIDE Results. Submitted to *Medical Image Analysis*. <https://arxiv.org/abs/2001.05647>

HONOURS & SCHOLARSHIPS

Fellowship of Summer@EPFL (2% applicants awarded)

July 2019

Tang Lixin Fellowship (40/24,000 Bachelor students at Zhejiang University)

Nov. 2017, 2018, 2019

First-Class Scholarship for Outstanding Students (2% students awarded)

Oct. 2017

Zhejiang Provincial Government Scholarship (3% students awarded)

Oct. 2017, 2019

Outstanding Student Leaders in Zhejiang University (3% students awarded)

Oct. 2017, 2019

Honorable Mention in Mathematical Contest in Modeling (MCM)

Feb. 2018

SERVICES & ACTIVITIES

Assistant in Office of Undergraduate Study

Sep. 2018 – Jan. 2019

Full-time voluntary teacher in Tuanlin Primary School, Guizhou

July 2017 – Aug. 2017

Member of Student Union of Lantian Community

Sep. 2016 – June 2017

Full-time swimming coach for primary school students

June 2016 – Aug. 2016

SKILLS

English Test: TOEFL 103 (R29/ L26/ S21/ W27), GRE 321 (V151/ Q170/ AW4.0)

Programming Language: Python, C/C++, Linux Bash, MATLAB, Verilog HDL.

Development Skills: Pytorch, TensorFlow, Modelsim, Vivado, Latex.

Other Skills: Swimming, Badminton, Table Tennis, Chinese Calligraphy, Guitar.