Mingxi Lei

Los Angeles
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EDUCATION

University of Southern California — Los Angeles, CA
Master of Science (M.S.) in Electrical Engineering — Jan 2019 – Expected 2020
- Advisor: Prof. Keith Jenkins
- Focus: Data Science and Engineering
- Cumulative GPA: 4.0/4.0

Guangdong University of Technology — Guangzhou, China
Bachelor of Engineering (B.Eng.) in Information Engineering — Sep 2014 – Jun 2018
- Focus: Signal and Image Processing
- Cumulative GPA: 3.6/5.0, 85/100
- Exchange Program: Collage of Informatics, Chaoyang University of Technology, Taichung, Taiwan. Sep 2015 – Jan 2016.
- Final Project (Defense): Fast Sparse ECG-Signal Estimation based on ℓ_1-homotopy.

RESEARCH EXPERIENCE

USC EE 590: Directed Research — Los Angeles, CA
Advisor: Prof. Keith Jenkins — Jan 2020 – Present
- Project: Sleep Apnea: Predicting Adherence to Positive Airway Pressure Therapy by Digital Signal Processing and Wavelet Transform

USC Radiomics Lab, Keck Medicine of USC — Los Angeles, CA
Summer Research — Jun 2019 – Feb 2020
Advisor: Prof. Bino Varghese, Prof. Darryl Hwang
- Project: USC In-house Image Processing Library Benchmarking and Development (Texture Features: Laws, GLCM, GLRLM, GLSZM, NGTDM, NGLDM)

Sun Yat-sen University Cancer Center — Guangzhou, China
Student Research Affiliate — Jun 2019 – Dec 2018
Advisor: Dr. Shuoyu Xu
- Project: A MRI-based Model for Predicting the Tumor Regression Grade of Rectal Cancer with Reproducible Radiomics Features

Bio-totem Tech — Guangzhou, China
Research Intern — Dec 2017 – May 2018
Advisor: Dr. Shuoyu Xu
- Quantitative Image Analysis, In-house Machine Learning Platform Development
- A project on Nasopharyngeal Carcinoma: run multiple combinations of feature selection algorithms and classifiers (logistic regression, SVM, random forest, boosting, MLP) using MRI data.

PUBLICATIONS

PREPRINT

[1] Mingxi Lei, Bino Varghese, et. al., "Benchmarking features from different radiomics toolkits / toolboxes using Image Biomarkers Standardization Initiative," arXiv, e-print 2006.12761, 2020.

CONFERENCES

[1] M. Rivas, et al., M Lei, et. al., "Morphometric Image Analysis Predicts Surgical Outcomes During Level II-IV Level Inferior Vena Cava Tumor Thrombectomy," in *Radiological Society of North America (RSNA) 2019*, Chicago, IL, USA, Dec 2019.

[2] M Chang, et al., M Lei, et al., "Feasibility of Nakagami Parametric Imaging for Texture Analysis of Ultrasound Images," in *Radiological Society of North America (RSNA) 2019*, Chicago, IL, USA, Dec 2019.

AWARDS & SCHOLARSHIPS

- M.S. Honor Program, Dept. of EE, USC — 2020
  < 5% students, highly selected
- Merit Scholarship, GDUT — 2016
  Top 10% students
- Full Scholarship for Exchange Program, GDUT — 2015
  Top 9/35 students

ACADEMIC STUDENT EMPLOYMENT

Grader

Ming Hsieh Department of Electrical and Computer Engineering, USC

- EE 364 (Introduction to Probability and Statistics for Electrical Engineering and Computer Science) — Spring 2020
  - Instructor: Prof. Michael Neely
- EE 141L (Applied Linear Algebra for Engineering) — Fall 2019
  - Instructor: Prof. Antonio Ortega

MISCELLANEOUS

Programming Languages

- Python, MATLAB, R, C++

Tools, Platforms, Frameworks

- Tensorflow, PyTorch, scikit-learn, OpenCV, ITK, pandas, (py)radiomics, glmnet, caret

REFERENCES

- **Professor Keith Jenkins**
  Professor of Electrical Engineering
  University of Southern California
  jenkins@sipi.usc.edu
- **Doctor Darryl Hwang**
  Assistant Professor of Research Radiology and Biomedical Engineering
  University of Southern California
  Darryl.Hwang@med.usc.edu
- **Doctor Shuoyu Xu**
  Principal Investigator of Department of General Surgery
  Bio-totem Pte Ltd & Nanfang Hospital Guangzhou China
  shuoyu.xu@bio-totem.com

RESEARCH INTEREST

Medical Image Computing, Interpretable Machine Learning, Radiomics

[*CV compiled on 2020-07-19 for General Purpose*]