Xiaoran Zhang

Google scholar • Linkedin profile
xiaoran108@ucla.edu • (424)402-7934
11050 Strathmore Dr, Los Angeles, CA 90024

Education

University of California, Los Angeles   Los Angeles, CA, USA
M.S. in Electrical Computer Engineering   Sep. 2019 - June 2021(expected)

Beijing Institute of Technology   Haidian District, Beijing, China
B.Eng. in Automatic Control | Advisor: Dawei Shi   Sep. 2015 - June 2019
- School of Automation international class (for the selected top undergraduates)
- GPA: 91.57/100, Rank: 2/36 | Xute Li Special Fellowship (highest honor for the top 0.06% undergraduates)

Work & Research Experience

BIT Institute of Automation & Peking University Third Hospital   Haidian District, Beijing, China
Research Assistant | Supervisor: Prof. Dawei Shi and Dr. Yan Li   Feb. 2019 – Sep. 2019
- Designed an automatic localization tool for cervical spondylotic myelopathy segmentation using deep CNN and a novel level set evolution approach.

BIT Institute of Automation   Haidian District, Beijing, China
Research Assistant | Supervisor: Prof. Dawei Shi   Oct. 2018 - June 2019
- Designed a fully automated approach to calibrate subcutaneous continuous glucose monitoring sensors using blood glucose measured by self-monitoring devices.
- Designed a state estimation algorithm using minimum-variance input estimation for blood glucose and interstitial glucose kinetics to reduce the computation complexity and calibration frequency.

University of Alberta Mazankowski Alberta Heart Institute   Edmonton, Alberta, Canada
Mitacs Research Assistant | Supervisor: Dr. Kumaradevan Punithakumar   July. 2018 - Apr. 2019
- Designed a fully automated segmentation approach by integrating U-net based deep convolutional neural network with a novel unscented Kalman filter which includes a time-varying angular frequency to characterize cardiac motion.
- Designed a classification network prior to training which separates data into three chamber groups and then loads corresponding network to achieve a faster training time and a better accuracy.

BIT National Key Lab of Intelligent System   Haidian District, Beijing, China
Research Assistant | Supervisor: Prof. Senchun Chai   Dec. 2017 - June 2019
- Designed a state estimation model which integrates Nonlinear AutoRegressive Moving Average with Exogenous Input (NARMAX) with Least Square Support Vector Machine (LSSVM) for GPS outage periods
- Designed input vector by using time-serial planar angular velocity and acceleration together with historical location increment to excavate data features in time dimension.

Publications

[1] **X. Zhang**, Y. Li, Y. Liu, D. Shi*. Automatic Segmentation of Spinal Cord Using Deep Convolutional Neural Network and Grayscale Regularized Level Set Evolution. In preparation.

[2] <u>X. Zhang</u>, W. Zhang, Y. Cao, D. Shi*, L. Shi. Optimal Continuous Glucose Monitoring Sensor Calibration for Patients with Type 1 Diabetes. in Proceedings of IEEE Conference on Industrial Symposium on Industrial Electronics (ISIE), Vancouver, Canada, 2019, pp. 617-622. ***Oral presentation***. [Paper]

[3] <u>X. Zhang</u>, G. Martin, M. Noga and K. Punithakumar. Fully Automated Left Atrial Segmentation from Cine Long-axis MR Image Sequences Using Deep Convolutional Neural Network with Unscented Kalman Filter. Medical Image Analysis (MedIA), 2019. Under review.

[4] <u>X. Zhang</u>, G. Martin, M. Noga and K. Punithakumar. Fully Automated Left Atrial Segmentation from MR Image Sequences Using Deep Convolutional Neural Network with Unscented Kalman Filter. in Proceedings of IEEE Conference on Bioinformatics and Biomedicine (BIBM), Madrid, Spain, 2018, pp. 2316-2323. ***Oral presentation***. [Paper]

[5] <u>X. Zhang</u>, Y. Bai and S. Chai*. State Estimation for GPS Outage Based on Improved Nonlinear Autoregressive Model. in Proceedings of IEEE Conference on Software Engineering and Service Science (ICSESS), Beijing, China, 2018, pp. 840-843. ***Oral presentation***. [Paper]

Presentations

- **"A Smart Tool for Left Atrial Segmentation"**. Oral presentation on MABM (Machine Learning & Artificial Intelligence on Bioinformatics and Medical Informatics, BIBM 2018, Madrid, Spain, Dec. 3rd, 2018.
- **"Continuous Location Estimation During GPS Outage"**. Oral presentation on model and algorithm session, ICSESS 2018, Beijing, China, Nov. 23th, 2018.

Honors & Awards

Xute Li Special Fellowship (9/all undergraduates), BIT, (highest honor for student in BIT) [Link]	2019
Graduate with 1st Class Honor, BIT and Beijing Municipal Education Commission [Link]	2019
Excellent Graduation Thesis, BIT	2019
Special Award for Outstanding Innovation, Ministry of Industry and Information Technology of China	2019
Mitacs Award for Outstanding Innovation-Undergraduate (1/all Mitacs interns), Mitacs [Link] [Video]	2018
Diwen Scholarship (1/36), BIT	2018
Meritorious Winner in ICM/MCM (8.88%), COMAP	2018
Nominated for Best Student in Class Award, RWTH Aachen University	2017
National Scholarship (1/36), the Ministry of Education of the People's Republic of China	2016
Beijing Triple 'A' Outstanding Student Award (1/320) by Beijing Municipal Education Commission	2016
Outstanding Student (2/320), BIT	2016 - 2017
1st Class Scholarship (1/36), BIT	2016 - 2017

Summer & Winter Schools

RWTH Aachen University   Aachen, North Rhine-Westphalia, Germany
Automation and Simulation Engineering Summer School   July. 2017 - Aug. 2017
- GPA: 4.0/4.0 | Nominated for Best Student in Class Award

University of California, San Diego   San Diego, CA, USA
Academic English Winter School   Jan. 2017 - Feb. 2017
- GPA: 4.0/4.0

Skills & Interests

Programming Language: Python, Matlab, C/C++, Java (Android),

Languages: English, Chinese, German

Interests: Swimming, Piano, Singing, Volleyball, Table Tennis

Miscellaneous:	Top 3 in best singer competition, BIT	2015
	Best player in man single rope skipping competition (246 times in one minute), BIT	2016