Shu Gong

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Last Update: Oct. 2022

EDUCATION

Georgia Institute of Technology (M.S.) 08/2022 – now
- Major: Electrical and Computer Engineering
- Faculty: School of Electrical and Computer Engineering

Sichuan University (B.S.) 09/2017 – 06/2021
- Major: Software Engineering (Computational Biology Experimental Class)
- Minor: Biological Sciences (Computational Biology Experimental Class)
- Faculty: College of Software Engineering & College of Life Sciences
- GPA: 3.45 / 4.00

University of Essex (Summer Intern) 07/2019 – 09/2019
- Major: Computer Science
- Faculty: School of Computer Science and Electronic Engineering

PUBLICATIONS

S. Gong, K. Xing, A. Cichocki and J. Li, "Deep Learning in EEG: Advance of the Last Ten -Year Critical Period," in **IEEE Transactions on Cognitive and Developmental Systems**, DOI: 10.1109/TCDS.2021.3079712.

PROFESSIONAL SERVICES

Regular Journal Reviewer
- IEEE Transactions on Neural Networks and Learning Systems

RESEARCH EXPERIENCE

Image-Guided Surgery Software / Robotics 01/2022 – 8/2022
Supervisor: WANG Hesheng Email: wanghesheng@sjtu.edu.cn Shanghai Jiao Tong University, China
- Built image-guided surgery software for a bronchoscope robot and uploaded all code in GitHub.
- Integrated algorithms of robot motion planning, VSLAM, 3D reconstruction, control, and kinematics.
- Coded in C++, modified thousands of lines of code in an Open-Source software.
- Worked closely with experts in various robot subdomains such as planning, VSLAM etc.

Deep Learning / Robotics / Invasive Brain- Machine Interface 02/2021 – 10/2021
Supervisor: ZHAO Zhengtuo Email: zhaozt@ion.ac.cn Institute of Neuroscience, CAS, China
- Performed electrode-implantation neurosurgery on mice, built a signal acquisition system to collect their neural signals and motions, and analysed the data from mice using deep learning models.
- Wrote a Unity3D program, developed a 3D simulated mouse, and used C# to reconstruct the activities of the electrode-implanted mouse to 3D simulated mouse in real time
- Coded an iOS program using Swift to help transmit neural signals of patients to their mobile phones
- Designed (SolidWorks), manufactured (3D Print & CNC), and assembled (cameras with light modules+ step motors + Arduino) a precise automated neurosurgery robot.

Deep Learning / EEG / Non-invasive Brain-Computer Interface 04/2020 – 02/2021
Supervisor: ZHENG Wei-Long. Email: weilong@sjtu.edu.cn Harvard University, USA

- Conducted research on the multitask learning and EEG based emotion recognition & person identification
- Extracted spatial, temporal and frequency features of EEG signals from public datasets
- Trained multitask learning models on cross-session and cross-subject EEG data
- Compared the performance of multitask learning methods and traditional machine learning methods

Deep Learning / EEG / Non-invasive Brain-Computer Interface 07/2019 – 09/2019

Supervisor: LI Junhua Email: junhua.li@essex.ac.uk University of Essex, UK

- Read and summarized scientific papers that were published in the past 10 years on the topic of deep learning in EEG signal processing
- Composed a review paper as the first author

KEY SKILLS

Programming

- Excellent: Python/Pytorch (data analysis and deep learning) and C/C++ (Linux-based development)
- Good: Java (Android and backend development)
- Fluent: C# (game development) and HTML/CSS/JavaScript (web development)

Software

- SolidWorks (3D modeling), Adobe Illustrator (scientific drawing), Unity3D (game design)

Foreign Language

- Fluent in English: TOEFL 101 (L 20, R 29, W 28, S 24)

RESEARCH INTEREST

Artificial Intelligence, Computational Biology, Biomedical Devices and Software, Brain-Machine Interface, Robotics