JIANNING (ERIC) LI (http://jianningli.me/)

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ADDRESSES
Elisabethstraße 85, 8010 Graz, Austria

Education

Graz University of Technology, Graz, Austria.
Institute of Computer Graphics and Vision
Ph.D student, March 2020 – Current.

Graz University of Technology, Graz, Austria.
Institute of Computer Graphics and Vision
Master of Science, August 2019 – March 2020.

Tsinghua University, Beijing, China.
Department of Biomedical Engineering,
School of Medicine, Aug 2016 – July 2019.

Zhengzhou University, Zhengzhou, China.
Bachelor of Engineering(B.Eng), Biomedical Engineering,
with honors, Aug 2012-Jul 2016.

Internship

Huiying Medical Technology, Beijing. ***Algorithm & Research.*** *Jan 18 2018-Jul 1 2018.*

I was involved in the development of an AI based online platform for individualized aortic stent therapy.

Main Responsibilities:

1. Work with surgeons to build a large CTA database with annotation of aortic dissection.
2. Develop, maintain and optimize algorithms for aortic dissection segmentation.

Beijing Tsinghua Chang Gung Hospital ***Department of Cardiology*** *Jul 3 2018-Aug 13 2018.*

I was with the Department of Cardiology in Beijing Tsinghua Chang Gung Hospital and had participated in the development of arrhythmia detection/diagnosis algorithms used by wearable ECG devices.

Main responsibilities

1. Work with cardiologists to collect ECG data from ECG machines.
2.Develop deep learning-based algorithms for ECG signal processing and arrhythmia detection.

Research

Tsinghua University, Lab Research Assistant. Aug 2016 – July 2019

Electrocardiogram (ECG) Based Arrhythmia Analysis

Main Responsibilities:

1. *Developing arrhythmia detection and localization algorithms.*
2. *Research/Publications.*
3. *Working with cardiac surgeons/cardiologists for medical data (ECG, Cardiac) collection/processing.*
4. *Other project related duties*

Graz University of Technology, Project Assistant. August 2019 -Current

Clinical Additive Manufacturing for Medical Applications

Main Responsibilities:

1. *Developing automated cranial implant design algorithms.*
2. *Research/Publications.*
3. *Working with surgeons for medical data (Skull, Craniotomy) collection/processing.*
4. *Student supervision.*
5. *Other project related duties.*

Professional Services

1. *Reviewer, MICCAI 2019,2020, 2021 (To be done)*
2. *Organizer, General Chair, AutoImplant 2020 (https://autoimplant.grand-challenge.org/)*
3. *Organizer, AutoImplant 2021 (To appear)*
4. *Scientific Editor, Towards the Automatization of Cranial Implant Design in Cranioplasty. First Challenge, AutoImplant 2020, Held in Conjunction with MICCAI 2020, Lima, Peru, October 8, 2020, Proceedings*

Awards / Extracurricular Activities

1. Special Price for the Sino Group Innovative Contribution Scholarship in 2016. Tsinghua X-Lab.

2. Third Price for the Sino Group Innovative Contribution Scholarship in 2017. Tsinghua X-Lab.

3. Correspondent, Tsinghua X-Lab Entrepreneurship Press Coverage.

4. Championship, Innovation and Entrepreneurship: Insights from Silicon Valley. Joint Business Pitch Competition by Tsinghua and Facebook. 100000 RMB Award and an Invitation to the Facebook F8 developer conference, 2018, San Jose, United States. (Role: team leader (CEO) of 5 international students)

5. Graduate with Distinction, Zhengzhou University, Jul 2016.

6. National Grand/Special Prize for NECCS (National English Competition for College Students) in 2014.

7. Pass with Distinction, Master's Thesis, Graz University of Technology, March 2020.

Selected First Author Publications

Peer-reviewed Conference Papers

1. **Li, J**., Pepe, A., Gsaxner, C., von Campe, G. and Egger, J., 2020. A baseline approach for autoimplant: the MICCAI 2020 cranial implant design challenge. In *Multimodal Learning for Clinical Decision Support and Clinical Image-Based Procedures* (pp. 75-84). Springer, Cham.
2. **Li, J.**, Pepe, A., Gsaxner, C. and Egger, J., 2021, February. An online platform for automatic skull defect restoration and cranial implant design. In *Medical Imaging 2021: Image-Guided Procedures, Robotic Interventions, and Modeling* (Vol. 11598, p. 115981Q). International Society for Optics and Photonics.
3. **Li, J**. and Egger, J., 2020, October. Dataset Descriptor for the AutoImplant Cranial Implant Design Challenge. In *Cranial Implant Design Challenge* (pp. 10-15). Springer, Cham.
4. **Li, J.**, Chen, R. and Wu, J., 2019, July. Structural Analysis of Complex Atrial Intramural Microstructure from A Multi-layer Model Based on Siamese Network. In *2019 41st Annual International Conference of the IEEE Engineering in Medicine and Biology Society (EMBC)* (pp. 294-297). IEEE.
5. **Li J.,** *Cao L., Cheng W., Bowen M.,Wei G (2018) Towards Automatic Measurement of Type B Aortic Dissection Parameters: Methods, Applications and Perspective. In: Stoyanov D. et al. (eds), CVII 2018, STENT 2018. Lecture Notes in Computer Science, vol 11043. Springer, Cham*

Peer-reviewed Journals

6. Pepe, A., **Li, J.,** Rolf-Pissarczyk, M., Gsaxner, C., Chen, X., Holzapfel, G.A. and Egger, J., 2020. Detection, segmentation, simulation and visualization of aortic dissections: A review. Medical image analysis, 65, p.101773. **(Joint first Authorship)**
7. **Li, J.,** Gsaxner, C., Pepe, A., Morais, A., Alves, V., von Campe, G., Wallner, J. and Egger, J., 2021. Synthetic skull bone defects for automatic patient-specific craniofacial implant design. Scientific Data, 8(1), pp.1-8.
8. Kodym, O., **Li, J.,** Pepe, A., Gsaxner, C., Chilamkurthy, S., Egger, J. and Španěl, M., 2021. SkullBreak/SkullFix–Dataset for Automatic Cranial Implant Design and a Benchmark for Volumetric Shape Learning Tasks. Data in Brief, p.106902. **(Joint first Authorship)**

Book Chapters

9. **Li, J.** et al. "Medical Image Segmentation in Oral-Maxillofacial Surgery". In: ComputerAided Oral and Maxillofacial Surgery: Developments, Applications, and Future Perspectives, 1st Edition, Jan Egger, Xiaojun Chen (Eds). (2020) (To be online)

Edited Books

10. **Li, J.** and Egger, J., 2020. Towards the Automatization of Cranial Implant Design in Cranioplasty. Springer, Cham.

Thesis

11. **Li, J.,** "Deep Learning for Cranial Defect Reconstruction". Master thesis. Graz University of Technology, Jan. 2020

Accepted Proposals

12. Jan Egger, **Jianning Li**, Xiaojun Chen, Ute Schäfer, Gord of Campe, Marcell Krall, … Dieter Schmalstieg. (2020, March 19). Towards the Automatization of Cranial Implant Design in Cranioplasty. Presented at the 23rd International Conference on Medical Image Computing

and Computer Assisted Intervention (MICCAI 2020), Lima, Peru: Zenodo. **http://doi.org/10.5281/zenodo.3873195**

13. **Jianning Li**, Oldřich Kodym, David G. Ellis, Michal Španl, Michele R. Aizenberg, Victor Alves, Gord von Campe, Jan Egger. (2021, March 2). Towards the Automatization of Cranial Implant Design in Cranioplasty: 2nd MICCAI Challenge on Automatic Cranial Implant Design. Presented at the 24th International Conference on Medical Image Computing and Computer Assisted Intervention (MICCAI 2021), Zenodo. **http://doi.org/10.5281/zenodo.4577269**

Public Dataset

14. **J. Li** and J. Egger. SkullFix - MICCAI AutoImplant 2020 Challenge Dataset. Figshare, 2021. https://dx.doi.org/10.6084/m9.figshare.14161307.v1
15. J. Li, et al. Head CT Collection for Patient-specific Craniofacial Implant (PSI) Design. Figshare, 2020. https://dx.doi.org/10.6084/m9.figshare.12423872

Software Development

An online platform for automatic skull defect restoration and cranial implant design.

Demo site: http://studierfenster.icg.tugraz.at/skull_reconstruction/skull_reconstruction.html

Youtube Tutorial: https://www.youtube.com/watch?v=pt-jw8nXzgs

White Paper: https://arxiv.org/abs/2006.00980