

Parastoo Akbarimoghaddam

*Applied Systems Biology
Leibniz Institute for Natural Product Research and Infection Biology–
Hans Knöll Institute (HKI)
Friedrich Schiller University Jena
Beutenbergstrasse, 11a
D-07745 Jena*

*Phone: +49 (0)3641-5321409
E-Mail: parastoo.akbarimoghaddam@hki-jena.de*

Title PhD Project: Quantitative Analysis of Microbial Dynamics in Organ-on-Chip Models

Main Research Interests

- Analysis of microscopy/spectroscopy data on host-pathogen interactions in microbial infection
- Deep learning
- Image Processing

Methodological Experiences

- Convolutional neural networks
- Active contour models

Curriculum Vitae

EDUCATION

Amirkabir University of Technology (Tehran Polytechnic)

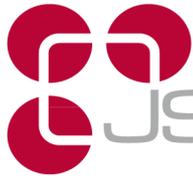
M.Sc. Biomedical Engineering – Bioelectric SEP. 2018-FEB. 2021

- GPA: 17.27/20 (A)
- M.Sc. Thesis: Combining Deep Neural Networks and Active Contour Models for Image Segmentation under the supervision of Dr. Hamed Azarnoush
- Eligible to apply for M.Sc. Program without entrance exam using Honor Student privilege (Because of high GPA and having excellent performance in B.Sc.)
- 3rd Rank in M.Sc.

Amirkabir University of Technology (Tehran Polytechnic)

B.Sc. Biomedical Engineering – Bioelectric SEP. 2014-SEP. 2018

- GPA: 16.85/20 (A)
- B.Sc. Thesis: Wideband Tissue Mimicking Materials for Thyroid and Spinal cord under the supervision of Dr. Mehrdad Saviz
- Ranked among top 2% in National Universities Entrance Examination applicants. (Exam among about 223,000 participants.), JUN. 2014.



RESEARCH & PRESENTATION

M.Sc. Thesis

a fully automatic image segmentation method which combines CNNs with parametric ACMs, is proposed. CNNs learn to predict active contour weighting parameters and ground truth mask to extract Distance Transform based vector flow and initialization circle. The method has been evaluated using both medical and aerial images.

B.Sc. Thesis

Tissue mimicking compositions for thyroid, spinal cord, and the homogeneous body-equivalent tissue have been theoretically designed, fabricated, measured and fine-tuned against experimental tissue data over two decades of microwave frequencies from 300 MHz to 30 GHz. The compositions can be used to fabricate anthropomorphic neck phantoms.

WORKING & TEACHING EXPERIENCES

Tehran University of Medical Sciences, Research Center for Science and Technology in Medicine

Internship JUN. 2017-SEP. 2017

Amirkabir University of Technology (Tehran Polytechnic)

Teaching assistant for Neural Networks under the supervision of Dr. Ali Seyyedsalehi
FEB. 2021-JUL. 2021

SKILLS

Computer Skills

Engineering Softwares: LT-Spice, OrCAD, Altium Designer, Proteus

General Softwares: Microsoft Office (Word, Excel, PowerPoint)

Programming Languages: Python(Tensorflow,PyTorch), MATLAB

Languages

Persian: Mother tongue

English: Fluent

Publications

Non-peer-reviewed articles, conference abstracts, theses

- Akbari, P., Ziaei, A. and Azarnoush, H., 2021. Deep Active Contours Using Locally Controlled Distance Vector Flow. *arXiv preprint arXiv:2105.08447*