



## Mojtaba Sedigh Fazli

Postdoctoral Scholar, Immunology and Rheumatology

### Bio

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#### BIO

Dr. Mojtaba Fazli is a leading scientist specializing in AI/ML, computer vision, and biomedical research. He is currently a Postdoctoral Research fellow Scientist at Stanford University and a Senior Research Fellow at the Harvard Ophthalmology Artificial Intelligence Lab, Harvard University, where he previously completed a postdoctoral fellowship.

Dr. Fazli's research bridges cutting-edge artificial intelligence with groundbreaking applications in multi-scale biomedical imaging, disease modeling, and drug discovery. His expertise encompasses advanced areas of AI/ML, including computer vision for 2D/3D medical image analysis, bioinformatics, and object tracking in both 2D and 3D environments. He has played a key role in developing state-of-the-art algorithms to enhance diagnostic precision and therapeutic outcomes within the biotechnology and healthcare sectors.

With a strong foundation in both academia and industry, Dr. Fazli previously served as a Senior Open Innovation Scholar at the Novartis Institute for Biomedical Research. There, he applied his expertise in strategic planning, programming, and simulation to tackle complex biomedical challenges.

Dr. Fazli holds a Ph.D. in Computer Science, with a minor in Mathematics, from the United States, as well as a Doctorate in Business Administration from France. His academic journey also includes master's degrees in Economics and Management, as well as Artificial Intelligence and Robotics. His interdisciplinary approach blends AI-driven innovation with practical, impactful solutions in healthcare.

At Stanford, Dr. Fazli leads research initiatives focused on integrating multimodal data in rheumatology, advancing ultrasound imaging research in Rheumatoid Arthritis, and developing AI methodologies for clinical applications. His current work also involves leveraging Generative AI and Large Language Models (LLMs) to drive innovation in medical data analysis and clinical decision support.

#### HONORS AND AWARDS

- Georgia Informatics Institute Deep Learning & Visualization Fellowship, Georgia Informatics Institutes (2018)
- Interdisciplinary and Innovative Research Grant, University of Georgia (2018)
- Georgia Informatics Institute Deep Learning & Visualization Fellowship, Georgia Informatics Institutes (2019)
- IEEE/ACM DSAA 2019 Best Paper Award, IEEE/ACM (2019)
- James L. Carmon Scholarship Award, Control Data Corp and The University of Georgia (2019)
- T32 Training Grant, NIH (2020)
- Travel Award Grant, ARVO 2022 (2022)

## STANFORD ADVISORS

- Suzanne Tamang, Postdoctoral Faculty Sponsor

## LINKS

- stanford web: <https://web.stanford.edu/~mfazli/>
- Harvard Lab: <https://ophai.hms.harvard.edu/team/mojtaba-fazli-phd/>

## Publications

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### PUBLICATIONS

- **SynovAI: A Revolutionary AI Framework for Enhanced Detection and Differentiation of Rheumatoid Arthritis, Osteoarthritis, and Spondyloarthritis via Advanced Ultrasound Imaging**  
Fazli, M. S., Deluna, M., Tamang, S., Fairchild, R.  
WILEY.2025: 157-159
- **An Artificial Intelligence Method for Phenotyping of OCT-Derived Thickness Maps Using Unsupervised and Self-supervised Deep Learning.** *Journal of imaging informatics in medicine*  
Kazeminasab, S., Sekimitsu, S., Fazli, M., Eslami, M., Shi, M., Tian, Y., Luo, Y., Wang, M., Elze, T., Zebardast, N.  
2025
- **Regulation of calcium entry by cyclic GMP signaling in *Toxoplasma gondii*.** *The Journal of biological chemistry*  
Hortua Triana, M. A., Márquez-Nogueras, K. M., Fazli, M. S., Quinn, S., Moreno, S. N.  
2024; 300 (3): 105771
- **Artifact-Tolerant Clustering-Guided Contrastive Embedding Learning for Ophthalmic Images in Glaucoma.** *IEEE journal of biomedical and health informatics*  
Shi, M., Lokhande, A., Fazli, M. S., Sharma, V., Tian, Y., Luo, Y., Pasquale, L. R., Elze, T., Boland, M. V., Zebardast, N., Friedman, D. S., Shen, L. Q., Wang, et al  
2023; 27 (9): 4329-4340
- **PyVisualFields: A Python Package for Visual Field Analysis.** *Translational vision science & technology*  
Eslami, M., Kazeminasab, S., Sharma, V., Li, Y., Fazli, M., Wang, M., Zebardast, N., Elze, T.  
2023; 12 (2): 6
- **Assessing Surface Shapes of the Optic Nerve Head and Peripapillary Retinal Nerve Fiber Layer in Glaucoma with Artificial Intelligence.** *Ophthalmology science*  
Saini, C., Shen, L. Q., Pasquale, L. R., Boland, M. V., Friedman, D. S., Zebardast, N., Fazli, M., Li, Y., Eslami, M., Elze, T., Wang, M.  
2022; 2 (3): 100161
- **The Impact of Inflammatory Markers on the Ganglion Cell Complex in Non-Glaucoma Subjects**  
Fazli, M., Rauscher, F. G., Wirkner, K., Engel, C., Kirsten, T., Loeffler, M., Thiery, J., Elze, T., Ebert, T., Wang, M.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2022
- **A Python collection of tools for analyzing visual fields**  
Kazeminasab, S., Eslami, M., Li, Y., Fazli, M., Sharma, V., Wang, M., Zebardast, N., Elze, T.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2022
- **Glaucomatous progressive retinal nerve fiber layer thinning and its association with patient race**  
Jin, Q., Halawa, O., Li, Y., Eslami, M., Kazeminasab, S., Fazli, M., Sharma, V., Zebardast, N., Wang, M., Elze, T.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2022
- **Evaluation of Deep Learning Visual Field Prediction Models for Clinical Relevance**  
Eslami, M., Zhang, M., Kim, J., Chang, D., Li, Y., Kazeminasab, S., Fazli, M., Sharma, V., Boland, M., Zebardast, N., Wang, M., Elze, T.  
ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2022
- **The Impact of Race on the Relationship Between Cup-To-Disc Ratio and Glaucomatous Visual Field Loss**  
Zhao, P., Li, Y., Eslami, M., Kazeminasab, S., Fazli, M., Sharma, V., Halawa, O., Zebardast, N., Wang, M., Elze, T.

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ASSOC RESEARCH VISION OPHTHALMOLOGY INC.2022

- **Ca<sup>2+</sup> entry at the plasma membrane and uptake by acidic stores is regulated by the activity of the V-H<sup>+</sup> -ATPase in *Toxoplasma gondii*.** *Molecular microbiology*  
Stasic, A. J., Dykes, E. J., Cordeiro, C. D., Vella, S. A., Fazli, M. S., Quinn, S., Docampo, R., Moreno, S. N.  
2021; 115 (5): 1054-1068
- **Lightweight and Scalable Particle Tracking and Motion Clustering of 3D Cell Trajectories**  
Fazli, M. S., Stadler, R., Alaila, B., Vella, S. A., Moreno, S. N. J., Ward, G. E., Quinn, S.  
edited by Singh, L., DeVeaux, R., Karypis, G., Bonchi, F., Hill, J.  
IEEE COMPUTER SOC.2019: 412-421
- **Toward Simple & Scalable 3D Cell Tracking**  
Fazli, M. S., Vella, S. A., Moreno, S. N. J., Ward, G. E., Quinn, S. P.  
edited by Abe, N., Liu, H., Pu, C., Hu, Ahmed, N., Qiao, M., Song, Y., Kossmann, D., Liu, B., Lee, K., Tang, J., He, J., Saltz, J.  
IEEE.2018: 3217-3225
- **UNSUPERVISED DISCOVERY OF <i>TOXOPLASMA GONDII</i> MOTILITY PHENOTYPES**  
Fazli, M. S., Vella, S. A., Moreno, S. N. J., Quinn, S., IEEE  
IEEE.2018: 981-984
- **Scalable Fast Rank-1 Dictionary Learning for fMRI Big Data Analysis**  
Li, X., Makkie, M., Lin, B., Fazli, M., Davidson, I., Ye, J., Liu, T., Quinn, S., Assoc Comp Machinery  
ASSOC COMPUTING MACHINERY.2016: 511-519
- **A Comparative Study on Forecasting Polyester Chips Prices for 15 Days, Using Different Hybrid Intelligent Systems**  
Fazli, M., Lebraty, J., IEEE  
IEEE.2013