

# Radmir Sultamuratov

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## EDUCATION

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<b>University of Houston</b> Ph.D. in Applied Mathematics	Houston, TX 2020 – 2024
<b>Wayne State University</b> M.S. in Mathematics	Detroit, MI 2018 – 2020
<b>Kazakh National University</b> B.S. in Mathematics	Almaty, Kazakhstan 2005 – 2009

## WORK EXPERIENCE

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<b>University of Houston</b> Graduate Research - Part time	Houston, TX 2021 – present
<ul style="list-style-type: none"><li>• Anatomy segmentation of heart zones in 2D time series using TensorFlow, OpenCV, etc.</li><li>• Image registration of MRI/echocardiography (Dicom, Nifti) images using Matlab, Python, ANTs</li><li>• Attained 97.5% accuracy with heart diagnosis problem using Deformable Convolutional Neural Networks and Random Forest</li><li>• Implemented DL models as VoxNet, PointNet, 3D autoencoders for segmentation and classification of 3D MRI images</li><li>• Image processing including: PC alignment, ICP registration, coarsening and refinement, inpainting, etc.</li></ul>	
<b>Aikynetix</b> Machine Learning Engineer - Internship	Houston, TX Summer 2022
<ul style="list-style-type: none"><li>• Built an api for realtime face detection and face tracking application using MMDetection and OpenFace toolboxes</li><li>• Tested and integrated pose and object detection models such as hrnet, resnet, yolov, tfrcnn into application</li><li>• Built and trained a custom pose classification NN model with 98% held-out accuracy using PyTorch</li><li>• Developed human physics parameters and pose phase estimation for video streaming using OpenCV</li></ul>	
<b>Securian Financial</b> Quantitative Research - Internship	Minneapolis, MN Summer 2020
<ul style="list-style-type: none"><li>• Implemented quadratic interpolation for Delta/Rho variables producing 3-5% rel.error of approximation</li><li>• Worked on solutions of reducing the computational cost of the Greeks estimation for intra-day options trading</li></ul>	
<b>Innovation High School</b> Math Instructor, Competitive Coach - Full time	Almaty/Aqtau, Kazakhstan 2009 – 2018
<ul style="list-style-type: none"><li>• Taught regular and competitive disciplines such as Number Theory, Combinatorics, Projective Geometry, etc.</li><li>• Aided 100+ students in achieving accolades on national/international competitions</li><li>• Received an Honorable Mention from the Minister of Education</li></ul>	

## PUBLICATIONS

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1. *Automatic classification of deformable shapes*, doi:[10.48550/arXiv.2211.02530](https://doi.org/10.48550/arXiv.2211.02530)  
H. Dabirian, R. Sultamuratov, J. Herring, C. El-Tallawi, W. Zoghbi, A. Mang, R. Azencott
2. *Maximum Matchings in Rectangle*, [gs-citation](#); [pdf](#)  
A. Dzhumadil'dayev, R. Sultamuratov

## SKILLS

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**Programming:** Python, Matlab, C++, R, SQL

**Frameworks/Software:** PyTorch, TensorFlow/Keras (*Certified*), openmm, opencv, pandas, sklearn, openface, git, SLURM, ssh/remote, bash/zsh, google cloud, docker, vscode, omp, multiprocessing, ANTs, labelme, slicer

**Relevant coursework:** Optimization, Probability & Statistics, Spatial Modelling, Numerical Methods, Deep Learning, Data-Driven Algorithms, Statistical Data Analysis, High-Performance Computing, Linux/Cluster Computing