Radmir Sultamuratov

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Education

University of Houston — Houston, TX
Ph.D. in Applied Mathematics — 2020 – 2024

Wayne State University — Detroit, MI
M.S. in Mathematics — 2018 – 2020

Kazakh National University — Almaty, Kazakhstan
B.S. in Mathematics — 2005 – 2009

Work Experience

University of Houston — Houston, TX
Graduate Research - Part time — 2021 – present

- Whole-heart segmentation in time series of 2D MRI images using TensorFlow, OpenCV, and etc.
- Image registration of MRI/echocardiography (Dicom, Nifti) images using Matlab, Python, ANTs
- Achieved 97.5% accuracy on cardiac diagnosis problem using Diffeomorphic Registration and Random Forest
- Implemented DL models as VoxNet, PointNet, 3D autoencoders for segmentation and classification of 3D MRI images
- Performed image processing tasks, including coarsening, refinement, inpainting, PCA alignment, ICP registration.

Aikynetix — Houston, TX
Machine Learning Engineer - Internship — Summer 2022

- Built an API for face detection and face tracking application using MMpose and OpenFace toolboxes
- Integrated pose and object detection models, such as HRNet, ResNet, YOLOv, and TCFormer, into the application
- Built and trained a custom NN model for pose classification with 98% hold-out accuracy using PyTorch
- Developed video streaming algorithms for human physical parameter estimation using OpenCV

Securian Financial — Minneapolis, MN
Quantitative Research - Internship — Summer 2020

- Implemented quadratic interpolation for Delta/Rho variables producing 3-5% rel.error of approximation
- Worked on solutions of reducing the computational cost of the Greeks estimation for intra-day options trading

Innovation High School — Almaty/Aqtau, Kazakhstan
Math Instructor, Competitive Coach - Full time — 2009 – 2018

- Taught regular and competitive disciplines such as Number Theory, Combinatorics, Projective Geometry, etc.
- Aided 100+ students in achieving accolades on national/international competitions
- Received an Honorable Mention from the Minister of Education

Publications

1. *Automatic classification of deformable shapes*, doi: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

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