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

Skills

Programming: Proficient: Python, Matlab. Expirienced: R, C++

Machine Learning: PyTorch, TensorFlow/Keras *(Certified)*, TorchScript, OpenCV, Scikit, OpenMMLab, Mediapipe, transfer learning, data augmentation, model deployment

Computing Software: ANTs, MALPEM, ShapeLDDMM

DataOps: pandas, spark, SQL, git, SLURM, bash, GCP, docker, vscode/remote, omp, multiprocessing, labelme, slicer

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

Selected Work Experience

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

- Proficient in computer vision, machine learning algorithms, and quantitative analysis
- Highly experienced in registration, classification and segmentation of medical images (nifti/dicom)
- Achieved 97.5% accuracy on cardiac diagnosis classification using Diffeomorphic Registration and Random Forest
- Implemented DL models as VoxNet, PointNet, Autoencoders for analysis of 2D/3D MRI images/series
- Performed image processing tasks including coarsening, refinement, inpainting, PCA alignment, histogram equalization, ICP registration and etc.

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

- Built an API for face detection and face tracking application using MMpose and OpenFace toolboxes
- Automated and standartized ML model retraining pipeline on GCP/VertexAI cloud machine
- Tested and integrated pose and object detection models, such as ResNet, YOLOv, and TCFormer, into the application
- Built and trained custom NN model for physical parameter estimation with 98% hold-out accuracy using PyTorch

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