Radmir Sultamuratov

radmir.website | (346) 504 2427 | sultamuratov.r@gmail.com | radmir-sultamuratov | radmir-s

Machine Learning Engineer

Extensive academic knowledge and 4+ years of practical experience in computational mathematics, machine learning, and programming. Specialized in computer vision, 3D image processing and classification. Actively looking for opportunities in ML/AI.

Work Experience

University of Houston — Houston, TX
Research Assistant — Sep 2021 – present

- Trained a 3D mesh classification VoxNet model with 96% validation accuracy using TensorFlow
- Built a heart disease classification model with 97.5% prediction accuracy with Random Forest/K-means algorithms
- Fine-tuned parameters of ADMM algorithm application for diffeomorphic registration of defformable shapes
- Developed a resolution downsizing algorithm of 3D images based on metrics-induced graph connectivity using Matlab

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

- Built an api for face detection and face tracking application using MMpose, FaceNet models
- Tested and integrated pose and object detection models such as hrnet, resnet, yolov, tcformer into application
- Built and trained a custom pose classification ANN model with 98% held-out accuracy using PyTorch
- Developed and coded algorithms for estimation of human physical parameters
- Built a phase detection algorithm of a human motion based on SSIM using Numpy, Cupy

University of Minnesota — Minneapolis, MN
Quantitative Research - Internship — Summer 2020

- Implemented and fine-tuned 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

Education

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

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

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

Skills & Knowledge

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

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

Frameworks: PyTorch, *TensorFlow/Keras*, OpenMM, OpenCV, NumPy, pandas, sklearn, SciPy, git, SLURM, ssh/remote, bash/zsh, GCP, Docker, VS-Code, PAPI/TAU/OMP, multiprocessing

Publications

1. H. Dabirian, R. Sultamuratov, J. Herring, C. El-Tallawi, W. Zoghbi, A. Mang, R. Azencott, *Automatic classification of deformable shapes.* arXiv:2211.02530 , doi:10.48550/arXiv.2211.02530

Machine Learning Side Projects

Age Recognition | Data-Driven Algorithms, University of Houston | *GitHub*

- Transformed $30k+$ of face images from Kaggle into 128 measurements using OpenFace
- Implemented the PCA analysis and ML algorithms such as SVM, Random Forest to solve age recognition problem

Match Prediction | Statistical Data Analysis, Wayne State University | *GitHub*

- Collected $5k+$ tennis match data from internet websites using parsing Python framework bs4
- Implemented ML algorithms such as KNN, QDA, LDA, Ridge&Lasso methods producing 89% prediction with KNN