ARSLAN ARTYKOV

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EDUCATION

Ecole des Ponts ParisTech — Paris, France

PhD in Computer Science — Since Oct 2023

Istanbul Technical University — Istanbul, Turkey

MSc. in Aerospace Engineering. CGPA: 3.94/4.00 — Sep 2020-July 2023

Istanbul Technical University — Istanbul, Turkey

B.S. with Second Class Honors in Aeronautical Engineering Department. — Sep 2015-June 2020

Ashgabat Turkish Anatolian High School — Ashgabat, Turkmenistan

CGPA: 97.30/100 — Sep 2011-May 2015

RESEARCH EXPERIENCE

Ecole des Ponts ParisTech, IMAGINE Laboratory — Paris, France

PhD Student — Since Oct 2023

- Articulated object reconstruction from monocular video

Bogaziçi University, DeepMIA Laboratory — Istanbul, Turkey

Machine Learning Research Engineer — Nov 2022 – July 2023

- Generating post-contrast cardiac MRI images using a diffusion model conditioned on contrast free images
- Developing a light-weight Latent-Composer in PyTorch based on “Composer: Creative and Controllable Image Synthesis with Composable Conditions” research paper
- Robust visual feature extractor based on Diffusion models for adverse weather autonomous driving

Istanbul Technical University, Aerospace Research Center Istanbul, Turkey

Graduate Researcher Feb 2021 – Jun 2022

- Deep Learning-based keypoints driven VIO for GNSS-denied 3D flight
- IMU measurement preprocessing by leveraging recurrent neural network
- Implemented Deep Learning based sparse direct visual odometry with self-supervised training approach and photometric bundle adjustment
- Implemented and trained learning based monocular depth/disparity estimation algorithm(both supervised and self-supervised approach)
- Designed and implemented a Deep Learning algorithm that classifies x-ray chest images of COVID-19 patients
- Designed and implemented runway detection and localization algorithm with semantic segmentation approach

Istanbul Technical University, Aerospace Department Istanbul, Turkey

B.S. Student 2017 - 2020

- Implemented a search-based motion planning algorithm for an agile drone
- Implemented the minimum snap trajectory generation algorithm for agile quadrotor flight
- Designed a LQR controller and LQTracker for f-16 aircraft
- Designed an altitude and attitude hold autopilots for light-weight fixed-wing UAV
- Implemented a dynamic model of a fixed-wing UAV and a quadrotor in SIMULINK environment

ADDITIONAL EXPERIENCE

Upily Istanbul, Turkey

Research Engineer June 2023 – Oct 2023

- Research on video diffusion models.
- Developing AI tool for image content generation with diffusion models. Implemented recent developments in diffusion models to the tool.

ITU Aerospace Research Center Istanbul, Turkey

Graduate Research Assistant Feb 2021 - June 2022

- Research on learning-based quadrotor self-localization and mapping, depth estimation and sensor fusion.

Altınay Aerospace and Advanced Technology Inc., Robotics Department Istanbul, Turkey

Intern Jan 2020 - March 2020

- Simulation of a rover type vehicle with velodyne LIDAR mounted on top in Gazebo environment

HONORS AND AWARDS

- Boeing Scholarship; in recognition of excellent academic performance during undergraduate studies.
- Student Salutatorian.
- Turkiye Scholarship; in recognition of excellent academic performance at high school.

SKILLS AND RESEARCH INTERESTS

Research Interests: Geometric Computer Vision, Visual Localization, 3D Reconstruction.

Computer: Python, MATLAB, C++, ROS, Linux, PyTorch, Numpy, MS Office, g2o, ceres

Languages: Turkmen(Native), Turkish(Advanced), English(Advanced), Russian(Fluent) , French(Beginner)