

RAKHMATOV SHOHRUH

Team Leader | Senior AI Engineer

in www.linkedin.com/Shohruh Rakhmatov

☎ +(82) 10 8293 5575 @ shoh.mirzo786@gmail.com 📍 Republic of Korea, Gwangjin-gu, Seooul-si, Hwayang-dong, Gunja-ro 5-gil

6+ years of industrial and academic experience, mentored 15+ undergraduate students, actively engaged with the academic community, and 3+ Korean patents. As a highly motivated and experienced AI researcher with a focus on autonomous driving, and in-cabin monitoring systems. I am excited to apply for the AI researcher role at your company. I am confident that I have the skills and expertise to make valuable contributions to your team. More than 6 years of experience Researcher in Artificial Intelligence and Computer Vision. In my previous role as a senior AI researcher at DeltaX company, I had the opportunity to lead a team of engineers and researchers in the development of an autonomous driving system that incorporated state-of-the-art deep learning algorithms for perception, prediction, and decision-making. I am excited about the opportunity to bring my expertise and experience to your team and work on challenging problems. Thank you for considering my application. I look forward to the opportunity to discuss my qualifications in further detail.

EXPERIENCE

April 2021
Present

Team Leader|Senior AI Researcher at [DELTA CO.LTD.](#), , South Korea

- > ¹Development of perception prediction technology based on Surround multi cameras for Lv.4 Autonomous Driving Vehicles.
- > ¹Development of merged perceptual SW and optimization of AI neural network with multi-sensor data for autonomous driving
- > ¹Implemented lightweight segmentation model to detect lane (used EfficientNetv2 as a backbone).
- > ¹Developed deep learning (instance segmentation) model to detect lanes, roads, or drivable areas.
- > ¹Building model to detect objects, both with and without labels, utilizing only one monocular camera.
- > ³Implemented Detection of driver drowsiness and distraction.
- > ^{2,3}Developed Head pose estimation using an IR camera
- > ²Implemented Recognition of the driver and passengers' actions, such as **distraction, gaze estimation, recognition of items on the left, seatbelt detection, and occupancy detection**, all using a single IR camera.
- > ^{2,3}Analysis of facial attributes, such as **age, emotion, and gender**, using a single IR camera.
- > ⁵Implementation of a lightweight face detection and landmark extraction module based on deep learning, aimed at detecting Deep Fakes.
- > ⁶Research and Developed XVision technology using deep learning methods to analyze nudity content from feature-length videos
- > ²Design, investigate and implement an Occupation Monitoring System (OMS) solution for **Edison Motors'** self-driving vehicles
- > ⁷ Instance Segmentation Challenge Winner of VIPriors Workshop at [ICCV 2021](#).
- > ⁷Collaborated in Self-Driving Data Contest 2021 Grand Prize, Won Korea Transportation Safety Authority Chairman Award
- > Welding defect detection
- > Provide leadership to an international team including guiding daily/weekly tasks
- > Collaboration with multiple teams throughout the project life cycle
- > ARMY Project - detecting attack using Machine Learning algorithms

¹X-pilot ²ICMS ³DMS ⁴LG Display ⁵Deep Fake ⁶Nudity Detection ⁷Awards

June 2022
Present

Senior Researcher at Tashkent University of Information Technology, ,

- > Multi-Camera based Surveillance system in CCTV environment (multi-camera multi-object detection, re-identification, tracking, and action recognition such as fighting, falling, calling, and smoking in a unified system)
- > Implementing ultra-lightweight facial authentication system in payment systems using deep neural networks.
 - > Ultra-lightweight Face Detection model.
 - > Developing applicable accurate face recognition system.
 - > Developing lightweight age and gender recognition system.
 - > Implementing Deep Neural Network for facial attribute analyzing.

Facial Attribute Analysis Tracking Re-identification Action recognition (fighting | falling | calling | smoking)

March 2021 November 2019	Research Engineer, HYUNDAI MIB INTERNATIONAL, South Korea <ul style="list-style-type: none"> > Developed a lightweight model to detect counterfeits. > Implemented a lightweight model to recognize and classify currencies > Developed a Real-time Age-Gender-Race Detection Model based on Detection Recognition Embedding “the smart mirror project” > Automatic Number Plate Detection model using YOLOv8 > Automatic Number Plate Recognition model using PaddleOCR > Implemented Segmentation model for vehicle inspection system to detect damaged parts such as door or bumper. > Developed Steel Surface Defect Detection Model. > Comparison of Spatial and Frequency images in character recognition (using LogPolar Transformation) > To remove fog, haze, and noise from images to increase image quality. <div> Currency Recognition Smart-mirror NP Detection Recognition Vehicle Inspection System Defect Detection </div>
September 2017 August 2019	Researcher,, CVPR LAB, The University’s Research Lab <ul style="list-style-type: none"> > Implemented Vision Inspection System for Error Detection in Car Painting System. > Developed Fabric Defect Type Detection by automatically Focusing on Abnormal pixels. > Implemented Brand Logo Detection Sponsorship Monitoring in Soccer Video. Prepare the procurement form and documentation. > Developed Facial Wrinkle Detection Model using a semantic segmentation method (IGCV3 + Deeplab v3+) > Implemented the Defect Detection model using Capsule Networks. > Conducted research on multiple academic/company projects <div> Fabric Defect Detection Brand Logo Detection Image Processing Facial Wrinkle Detection </div>

PATENTS

2022	SYSTEM FOR MONITORING PASSENGERS WITHIN CABIN OF PASSENGER TRANSPORT VEHICLE.
2021	인공 지능 기반의 차량 내부 승객 모니터링 시스템.
2021	PERCEPTION METHOD FOR LOW SPEED VEHICLE.

ACHIEVEMENTS

2021	1st Place 2021 ICCV Instance Segmentation Challenge. <i>Visual Inductive Priors for Data-Efficient Computer Vision 2021 Instance Segmentation Challenge</i>
2021	Collaborated in Self-Driving Data Contest 2021 Grand Prize, Won Korea Transportation Safety Authority Chairman Award.
2021	Task-Specific Copy-Paste Data Augmentation Method, for Instance, Segmentation, Visual Inductive Data-Efficient Deep Learning Workshop at ICCV 2021.

COMPETENCES

Areas of Expertise	Deep Learning, Computer Vision, Motion Analysis and Tracking, Image Processing and Analysis, Object Detection and Recognition, Semantic/Instance/Panoptic Segmentation, Image Synthesis, Image Classification, Medical/Fabric Image Processing, Transformation, Edge Detection Algorithms
Programming	Python [OpenCV, Numpy, Scikit-learn, Pandas, PIL]
Frameworks	PyTorch , TensorFlow, Keras, and PaddlePaddle. <ul style="list-style-type: none"> - Strong experience in coding review and debugging skills (6+ experience). - Ability to write highly performant code, code optimization, acceleration skills. - Team coding (GitLab, GitHub, etc). - Hands-on experience in Medical Imaging, Medical Image processing (Histology, MRI, X-rays images) - Hands-on experiments in current state-of-the-art Deep learning Network (Efficientv2, Swin Vision Transformer, MaxViT multi-axis vision Transformer) - Skilled in Image Synthesis, Image-to-image, Image super resolution, etc using GANS. - Skilled in Big data processing, Data statistics, visualization, etc. - A big Fan of CVPR, ICCV, ECCV, ICML, etc.

ACADEMIC BACKGROUND

2017~2019 **Master of Computer Engineering (Spec - Computer Vision and Pattern Recognition Lab)** Kumoh National
Institute of Technology [94/100](#)
2011~2015 **Bachelor of Tashkent University of Information Technology** [87.5/100](#)

</> LANGUAGES

English ● ● ● ● ●
Uzbek ● ● ● ● ●
Russian ● ● ● ○ ○

+ STRENGTH

- > Innovative, Critical observation
- > Patience, Smart work
- > Quick learner, Motivator
- > Helping, Friendly

💡 INTEREST

RELAXATION : Sleep, movie, social media, photography
SPORT : soccer, running, cycling, traveling

“ REFERENCE

Jae- Pil Ko

Professor with the department of Computer Engineering, Kumoh Institute of Technology, South Korea,

@ nonezero@kumoh.ac.kr

☎ +82-54-478-7529