ULUGBEK SHERNAZAROV

📍 Tashkent, Uzbekistan

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RESEARCH INTERESTS

Deep Learning, Vision Language Models, Large Language Models, Computer Vision, Face Related Tasks, Visual Tracking, Neural Rendering, Artificial Intelligence for Medicine, Machine Learning

EDUCATION

Asian Institute of Technology, Thailand   *Aug 2024 - now*
Master of Science
Data Science and Artificial Intelligence

Inha University in Tashkent   *Sept 2019 - May 2023*
Bachelor of Science   *GPA: 4.11/4.5*
Computer Science and Software Engineering   *Member of Dean's list*

RELEVANT COURSEWORK

Core Courses
Intro to Computer Science, Object-oriented Programming (C++), Data Structures, System Programming, Computer Architecture, Internet Programming, Database Management System, Operating System, Discrete Mathematics, Software Engineering, Computer Algorithms, Computer Networks, Unix Programming, Embedded Systems.

Math Courses
Calculus, Linear Algebra, Discrete Mathematics, Engineering Mathematics, Probability and Statistics

AI courses
Artificial Intelligence, Big data analytics, Multimedia Applications, Multimedia Computing, Capstone Design, Internet of Things, Mobile Programming.

RELATED PROFESSIONAL EXPERIENCE

AI Implementation Group   Tashkent, Uzbekistan
Machine Learning and Computer Vision Engineer   *March 2023 - August 2024*

· Spearheaded the development of a groundbreaking face recognition system for long-distance identification using PoE cameras, significantly enhancing the company's security and monitoring capabilities.

· Engineered and deployed robust Machine Learning and Computer Vision pipelines for biometric recognition and tracking, utilizing Docker for efficient model analysis and deployment, thereby elevating the company's technological solutions to new levels of sophistication and reliability.

· Initiated and led the research, pipeline development, and subsequent implementation of a palm biometrics service, opening new avenues in biometric security for the organization.

· Architected and maintained an Elastic Search database for over 1.5 million photos by extracting feature embeddings, substantially improving data retrieval times and search accuracy for biometric identification processes.

· Innovated by integrating Redis in autodelete mode for face tracking, enhancing system efficiency without compromising accuracy. This solution effectively mitigated processing delays in the service's mainstream operations, ensuring timely notifications via a Telegram bot.

· Implemented multithreading and multiprocessing techniques for the Telegram notification system.

- Implemented RESTful endpoint using FastAPI as a standalone service for preprocessing, inferencing, and postprocessing incoming base64 encoded images for face detection and recognition.
- Automated the deployment and monitoring of machine learning models using CI/CD pipelines with Jenkins, ensuring reliable updates and seamless integration.
- Implemented comprehensive monitoring and logging solutions with Prometheus and Grafana to track model performance and system health, enabling proactive issue resolution and optimal operational uptime.

Megafon Internship (Remote)
Tashkent, Uzbekistan
Software developer
July 2022 - October 2022

- Engineered a web-scraping script with Selenium, enhancing data analysis for network coverage.
- Implemented rigorous testing with pytest, improving software reliability.
- Developed PostgreSQL virtual tables, boosting database efficiency.
- Applied CI/CD practices with Jenkins and Ansible, optimizing deployment processes.
- Analyzed system performance with Grafana and Promeheus, enhancing operational insights.

Reference: Svetlana Stakanova (HR)

Exadel Internship
Tashkent, Uzbekistan
Python Developer
April 2022 - June 2022

- Created parsers and a cleaning-service system with Django and PostgreSQL.
- Developed RESTful APIs using Django Rest Framework and implemented JWT authorization with Djoser.
- Integrated Celery with RabbitMQ for asynchronous tasks, enhancing system efficiency.
- Conducted comprehensive testing with pytest, ensuring high code quality.

AIC Network Engineer (Internship) - (Part-time)
Tashkent, Uzbekistan
Network Engineer
Sept 2021 - Jan 2022

- Maintained and enhanced network performance through detailed monitoring and analysis.
- Designed and implemented a secure L3-network with Cisco systems, using dynamic routing protocols.
- Enhanced security and network resilience with Fortinet technologies and comprehensive vulnerability management.
- Leveraged Splunk for data analytics, improving network insights and decision-making.

EPAM Training
Tashkent, Uzbekistan
Python Fundamentals
Jan 2022 - Mar 2022

- Built One-shot command-line RSS reader using argparse module
- Built custom JSON parser and CLI display on json
- Code was written corresponding to pep8 standard
- All functions and classes were covered with docstrings
- Most functionalities were covered with unit testing
- Integrated MySQL database as caching feature
- Integrated format converters (parsing to .epub, .pdf, .html formats)
- Integrated CLI output colorization (colorize library)

SKILLS

Machine Learning: Python, PyTorch, TensorFlow, scikit-learn, Keras, YOLOvX, Caffe, Pandas, NumPy

MLOps: Docker, Kubernetes, CI/CD (Jenkins, GitLab CI), MLflow, FastAPI, Flask

Computer Vision: object detection, segmentation, and feature extractors (adaface, arcface)

Data Engineering: PostgreSQL, Elasticsearch, MongoDB, ChromaDB, Qdrant, Apache Spark

Programming Languages:: Python, C/C++, Bash

Cloud Platforms: AWS (S3, EC2, SageMaker, Lambda), GCP (Compute Engine, Vertex AI), Azure

Tools & Libraries: Git, GitHub, Linux, Bash, Jupyter, Prometheus, Grafana

PROJECTS

Federated Learning with MedMNIST Chest Dataset   Research work
· Developed a federated learning system for binary classification on the MedMNIST Chest dataset.
· Implemented privacy-preserving techniques and decentralized model training.

Video-Analytics   Python, Django, Pytorch
· Core Technologies: Utilizes yolov8 and adaface models for precise detection and recognition tasks, showcasing advanced capabilities in facial analytics.
· System Integration: Employs Elasticsearch for efficient data indexing and search, facilitating quick retrieval of facial analysis results.
· Process Orchestration: Incorporates RabbitMQ and Celery to manage communication and task execution across various services (camera-service for frame capture, recognition-service for frame processing, and notification-service for sending alerts to APIs), ensuring seamless operation and scalability.

Automated pre-learning of Image classification Web project   Python, Django, Vue, Pytorch
· Implemented MVP project on the hackathon. Transfer learning model based on the Resnet50 that can classify images on a given input by the user.
· Implemented using Django+Vue.js where requests are handled using background message queue (Celery+Redis)

Web Cleaning Service   Python, Django
· Framework and Technologies: Utilized Django and Django REST Framework for the backend, with PostgreSQL for data management.
· Features: Implemented features such as user authentication (using Djoser), RESTful routing, and custom middleware to enhance API functionality.
· Asynchronous Tasks: Integrated Celery with RabbitMQ for efficient task queuing and execution, improving performance and scalability.
· Testing and Security: Focused on robustness and reliability with comprehensive unit testing via pytest, alongside industry-standard security practices.

CERTIFICATES

Programming Certificates
- C++ course certificates
- Python Fundamentals certificate (Coursera)
- Deep Learning Specialization courses in Coursera
- TensorFlow: Advanced Techniques Specialization
- AWS machine learning & data science certificate
- Kaggle certificates

Hackathons and Conferences Certificates
- Voice AI Hackathon Uzbekistan 2021 participant
- 3rd place of the "Automation of pre-learning of a neural network (ML/AI)" hackathon
- SAP International Ideathon Central Asia 2022 certificate
- CVIT IIIT Summer School on AI certificate

Network Engineer certificates
- Splunk 7.x Fundamentals and Splunk Infrastructure
- Cisco Routing & Switching
- NSE 4 FortiGate Security and Infrastructure 6.4 Self-Paced certificates

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