europass Curriculum vitae

PERSONAL INFORMATION

Fikrat Gasimov

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Date of birth 08/07/1995 | Nationality Azerbaijan

WORK EXPERIENCE

July 2021 – Ongoing 2022

Senior Embedded Software and AI Scientist

Rome/Italy
EurolinkSystems

- Programming and Prototyping Unmanned Ground Vehicle (Unitree Aliengo, Boston Dynamics Spot)and Unmanned Area Vehicle(Eurolink-Beluga)
- Programming AI Algorithms: Target Detection and Tracking with Extended Kalman Filter, Detection of Object Disappeared and Newly Added from/to Static Environment(Anomaly Detection), Face Recognition and Tracking, Detection of Human Fall Down or on Foot, Detection of HandGun, Trifle, Detection and Segmentation of Fire and Smoke on environment, Detection of Anomaly Sound Detection(DSP Filtering) on the Background, like Gun Shot. Detection of Door Opened or Closed. Alarm System Development on Remote PC with Socket Programming based on MultiThread Programming. Precision Farming Algorithms: Leafs Status Detection and Analysis on Different Seasons with UGV and UAV Robots based on Particle Swarm Intelligence.
- Self-Supervised and Reinforcement Learning Algorithms for Ground Mobile Robots with Unknown Environments
- AI Frameworks and Models:Tensorflow/Tensorflow2, Pytorch. Yolov3/4/7, YOLOVX, PoseNet, Darknet, DetecNet and state-of-art techniques.
- Other Projects: Stereo Vision Depth Estimation, Camera Calibration, Depth Estimation, Disparity Mapping, Distance Calculation in 3D environment with two Logi270.
- Robot Operating System Algorithms: Obstacle Avoidance and Human Following Algorithms based on Darknet(ROS/ROS2)
- Excellent in Studying Scientific Papers and Transforming them to practical code.
- Main Programming Languagues: C/C++, Assembly, Python, generating static and dynamic libraries for Machine Learning Production, Driver Development.
- Hardware Knowledge: Jetson Family, GPU, Nvidia Family, Qualcomm RB5, IntelCore Family, STM32F407, Ardunio One, RaspBerry Pi, Ardupilot(pixhawk/CubeOrange/CubeBlack).
- Experience with I/O: PCI express, I2C, SPI, Serial, JTAG and Ethernet(TCP/IP, UDP/IP, RTSP).
- Developing Stream Videos Based TCP/RTSP and UDP protocols for Low Cost Sensors.
- Camera Hardware Knowledge: IntelD435/435i, Intel265, Zed2i, ZedMini, Logi270 ,Pixy2, MicaSense MultiSpectral Camera.
- Excellent knowledge managing on RTOS, Linux Administration and different OS.
- Development on Hardware: Writing HW Drivers on MCU, and Making Updates with Linux Patches on Drivers of Jetson Family, Qualcom RB5, Intel Core Family. Updating Frameworks for our custom case, ardupilot(PX4/CubeOrange)
- Excellent Knowledge: HW/SW Agile Methodology, Zoho, Azure Devops, HW/SWs UML
- Parallel Programming for GPU Inference Accelaration based on CUDA and C Mixed Programming
- Intermediate knowledge of C++ Qt Desktop/QUI development for embedded devices
- Teaching Reinforcement Learning Policy to Mobile Robots in case of Dog Robot on Simulation Phase, in order to imitate as Real Animal.
- Huge Motivation for Embedded Software/Hardware Development for AeroSpace and Defense.

December 2020 – August 2021

AI Scientist-Team Leader

Milan/Italy
Foolfarm (Via Morimondo)

- Prototyping Algorithms for mainly Androids and Embedded Systems.
- Specialized in AI-Signal Processing, developing Voice Authentication System, Voice Activity Detection, Voice Spoofing, Voice Cloning, Noise Suppression, Voice Enrollment, Identification and Verification for Android Systems.
- Inventor of IRIS Recognition, and Eyes Movement Localization, for Safe Driver, Virtual Keyboard, Emotion Analysis from Text (22 emootions).
- Additional work:Object Detection to Unlock Androids, Document Identity Recognition, Human Liveness Detection, Emotion Detection from Human Facial Expressions, Emotion Detection From Voice (11 emotions), Speech Recognition, Fraud Detection from Bank Account, Human Gesture Analysis, Voice Cloning, NLP Resume Analysis for Personality Detection, Human Gender Detection.
  Excellicent Knowledge on Frameworks such as Keras, Pytorch, TF2, caffee , Spacy, Nltk.
- Specialized in Natural Language, developing NLP Chatbots, Emotion Sentiment Analysis, Topic Based-Detection systems, based on state-of-art.
- Robust Knowledge on Python/Scala/C++ with Ml Models, DJango with JavaScript,Typescript, .Net technology.
- Brilliant Management with Scrum of AGILE methodology, on Jira, Gitlab, BitBucket, GCP, Azure, AWS Platforms, Docker, KuberFlow, KafKa
- As Team Leader in Research and Development sector, with up to 12 International developers, being responsible for High-Tech Infrastructure, and Management.
- Developed ML models for Analysis of Weather Pollutants, with Traffic Jam, Weather Forecast High-Level Data Leak.
- Inventor of Innovative AI based Patents, designing High-Tech Infrastructure for Deployment, and aiming at integrating with hardware, electrical, embedding systems for new revolutionaries.

August 2020 – November 2020

Intern- .NET Full Stack Developer

Milan/Italy
Alascom (Via Caduti Di Marcinelli 5)

- I have developed Web Applications, such as Login, Logout pages, Sign-Up,creating Forms (Index, Update, Delete, Insert) using Registration table, Employer table . In Addition, I have utilized technologies as the following:
- Back-End Technologies utilizied:.NET, OOP, LINQ, Repository, Asp.Net, Asp.Net core, Entity Framework and Entity Framework Core, MVC 5/6, SOLID Design Principles, Asp.Net Web API
- Front-End Techologies utulizied : Jquery.js, Javascript, Angular2, Asp.Net Web Api, HTML, CSS, Bootstap3,Angular CRUD Operations(Create, Delete, Update), XML, JSON.
- Database: Sql Server and MySql
- Daily and Weekly Meetings via Scrum software of AGILE Methodology on Jira Platform.
- Retrieve data also from Schneider Electric PLC Modicon M262, to interact with OPC UA Client and Server.
- Involved in Research and Development Team(twelve engineers).
- Communities: VS 2019 with Asp.Net Core; VS 2017 with ASP.NET, ASP.NET MVC; VS 2015 with ASP.NET WEB API, Javascript Jquery.js, Angular2
- Computer Vision and Deep Learning YOLo objection detection algorithm deployment

July 2020 – August 2020

Universal Robots Certified Training

Torino/Italy
Universal Robot (Via Lessolo 3)

- Universal Robots Basics Functionality
- Universal Robots Advance Programming

Business or sector Research-Development

July 2019– June 2020

Computer Vision and Deep Learning Researcher

Bologna/Italy- University of Bologna

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- Data Normalization and Cleaning with Apolloscape Dataset for Lane Marking Semantic Segmentation, on the behalf of Deep Learning
- Preparation of Ground Truth Images from Raw Apolloscape Dataset.
- Data Labelling on Apolloscape Dataset
- Preparation of Look-up table containing RGB as well as 38 encoded labels
- Standard Cross-Entropy Loss on Semantic Segmentation with Binary Classification Challenge
- Weighted Cross Entropy Loss with 38 MultiClass Classification Challenge
- Optimization of Data Augmentation Techniques with PyTorch framework
- Lane Marking Semantic Segmentation in Autonomous Driving Scenario, with a Deep Convolution Neural Networks.

Business or sector European institution-CVlab

May 2014 – December 2014

Intern-Industrial Automation

Baku/Azerbaijan
Rapid Solution

- .NET technology with Visual Basic, to develop Control Panel and Desktop as Human Machine Interface to control remotely Gas-Lift Devices.
- Back-end: VP.Net, Asp.Net Core, Entity Framework Core for CRUD operations
- Front-End:Bootstrap3, JavaScript, React.js

Business or sector Engineering

EDUCATION AND TRAINING

2017–2019

Master of Robotics and Artificial Intelligence

Bologna/Italy- University of Bologna

- Master thesis-title : Lane Marking Segmentation in Autonomous Driving Scenario, with a Deep Convolution Neural Networks.

2013–2017

Bachelor degree of Software Engineer

Glasgow-United Kingdom, The University of Glasgow, Scotland

- Bachelor Thesis: Controlling/Optimization of Two stage of Gas-Lift Wells on Matlab Simulink

PERSONAL SKILLS

Mother tongue Azerbaijani

Other languages

	UNDERSTANDING		SPEAKING		WRITING
	Listening	Reading	Spoken interaction	Spoken production	
English	C2	C2	C2	C2	C2
	IELTS–7.0				
Russian	B2	A2	B2	A2	A2
Turkish	C2	C2	C2	C2	C2
Italian	B2	B2	B2	B2	B2
Chinese	A1	A1	A1	A1	A1

Levels: A1 and A2: Basic user – B1 and B2: Independent user – C1 and C2: Proficient user
Common European Framework of Reference for Languages

Communication skills

- team work: I have worked in various types of teams from research teams to single project, within the period of Universities.
- mediating skills: I participated in Olympic Games, involving with various cultural background.

Organisational / managerial skills

- while collaborating with team members, deployed AGILE software methodology - Scrum
- Friendly and Supportive approach toward team members for any incoming situations.
- Being involved in multiple challenging tasks.

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Digital competences

SELF-ASSESSMENT				
Information Processing	Communication	Content creation	Safety	Problem solving
Basic user	Independent user	Proficient user	Independent user	Basic user

Digital competences - Self-assessment grid

Computer skills

- General Knowledge of Programming Languages: Good knowledge in C/C++language, Matlab software (Computer Vision and Image Processing Toolbox), Scala, Java, Python skill, Intermediate knowledge on Javascript with Node.Js, UR5(Universal Robots) Script programming, e-Series and CB3 robots, C sharp , .Net Framework
- Big data : Apach-Spark with Scala, Hadoop, Sql, Sql Server; Sagemaker, S3 services, Docker on AWS server.
- Virtual environments: Pip3, Anaconda.
- COCO, ApolloScape, CityScape, Celeba, Iris, Mnist, Titanic.
- Operating System : Linux and Windows
- Framework: DeepLabV3 Plus, Xception Network, LSTM network, RNN, CNN, Attention algorithm, TensorFlow, Pytorch, Keras, Caffe, Numpy, Matplotlib, Seaborn, Scipy, PIL, Scikit-Learn, OpenCV

PUBLICATIONS

[1] Fikrat Gasimov and Sela. “Establishing databases based on computer experiments on key characteristics of continuous gas lift wells.” In: *International Journal Engineering and Application* (2017).

[2] Kasper Koops Kratmann, MPF Sutcliffe, LT Lilleheden, Ryszard Pyrz, and Ole Thybo Thomsen. “A novel image analysis procedure for measuring fibre misalignment in unidirectional fibre composites”. In: *Composites Science and Technology* 69.2 (2009), pp. 228–238.

Certifications

- Universal Robots Academy-Basics
- Universal Robots Academy-Advance
- Awarded on Olympic Games with Certification because of High skills performances in terms of Math,Chemistry as well as Physics.
- Recommendation Letter nominated by EurolinkSystems Company (CTO-Davide Allegri)
- Recommendation Letter nominated by Professor of the University of Bologna(professor Vincenzo Parenti Castelli)
- Recommendation Letter nominated by Professor of the University of Bologna(Supervisor: Luigi Di Stefano)
- Being involved in multiple challenging tasks.
- Coursera:Deep Learning and Neural Networks taught by Professor Andrew Ng.
- Coursera: Convolution Neural Networks taught by Professor Andrew Ng
- Coursera: Natural Language Processing with Classification and Vector Spaces taught by Professor Andrew Ng
- Coursera: Natural Language Processing with Probabilistic Models taught by Professor Andrew Ng
- Coursera: Natural Language Processing with Sequence Models taught by Professor Andrew Ng
- Coursera:Natural Language Processing with Attention Models taught by Professor Andrew Ng
- GPU programming specialization

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Additional Projects

- Conditional Generative Adversial Convolution Neural Network: Training with Celeba Dataset, based on 40 attributes, in order to analyse Frechet Inception Distance between two dataset. (InceptionV3 network, keras and tensorflow, Discriminator-Generator)
- Machine Learning Labs : Data Exploration(Irish dataset, Titanic dataset); Logistic and Linear Regression, Pruning of Decision Tree; Classification; Clustering; Preprocessing, Association Rules
- Emotion Detection on Images of Faces with Keras
- Construction of Residual Network on Keras and Tensorflow
- Car detection with YOLOX with keras
- Art Generation with Neural Style Transfer with Tensorflow
- Face Recognition and Verification with Keras and Tensorflow
- Multiple field image analysis procedure for characterization of fibre alignment in composites: Matlab Software(Computer Vision Toolbox) and C++ with OpenCV Library
- Industrial Robotics: development of PUMA560 robotic manipulator control schemes in Matlab Simulink. Lego Mindstorm classroom contest for obstacle avoidance and path following.
- Mechatronic Systems: Shape Memory Alloy actuator control scheme developed on BeagleBone with Matlab/Simulink, to control a Spring-Mass system

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