Rolan A.
Architect/Team-lead ML/Computer Vision

SUMMARY

- More than 10 years' experience of software development
- Data science skills. Computer Vision, multiple view geometry, camera calibration, LIDAR, object detection, semantic segmentation, instance segmentation, time series, dynamic programming
- Software Engineering skills. Experience of IoT (Internet of Things) and Embedded development
- Solution-oriented scientist focused on R&D and product delivery with 9 years of experience on the outsource domain
- Accustomed to self-education and independent problem solution
- My inspiration is exiting by challengeable and reasonable engineering tasks. Pitching skills from years of conferences attendance and strong understanding of business needs are my strengths
- Intermediate English.
- Availability starting from ASAP

TECHNICAL SKILLS

Main Technical Skills	Python
Programming Languages	C, C++, Python, R, Swift
AI & Machine Learning	CNN, Keras, LSTM, NumPy, OpenCV, PyTorch, TensorFlow, Xgboost
UI Frameworks, Libraries, and Browsers	Dlib
Python Frameworks	Flask
Python Libraries and Tools	Keras, Matplotlib, NumPy, PyTorch, SciPy, Seaborn, TensorFlow, TFLite
Data Analysis and Visualization Technologies	Jupyter Notebook
Databases & Management Systems / ORM	MySQL
Methodologies, Paradigms and Patterns	Agile, Scrum

Scripting and Command Line Interfaces	Bash
Mail / Network Protocols / Data transfer	BIND, DNS, TCP/IP
Platforms	CMS, Drupal, Joomla, WordPress
Virtualization, Containers and Orchestration	Docker, KVM (for Kernel-based Virtual Machine), XEN
Third Party Tools / IDEs / SDK / Services	Gentoo, MatLab, Qt Framework
Version Control	Gerrit, Git
Operating Systems	GNU, iOS, Linux, Windows
Deployment, CI/CD & Administration	Jenkins
Collaboration, Task & Issue Tracking	Jira
Web/App Servers, Middleware	LAMP
Message/Queue/ Task Brokers	MQQT

EXPERIENCE

Technical Lead of Computer Vision

June 2022 – Present

Lead Computer Vision Engineer, Pheon Inc

September 2021 – February 2022

Technical Lead, Intetics Inc

March 2021 – September 2021

Professor Assistant, Karazin KNU

May 2020 – June 2021

Software Engineer, GlobalLogic Inc (Kharkiv, Ukraine)

July 2017 – March 2021

Software Engineer, eCozy Inc

October 2016 – February 2017

Software Engineer, GlobalLogic Inc (Lviv, Ukraine)

September 2015 – October 2016

Researcher, Karazin KNU

January 2013 – May 2020

System Administrator, Ukrnames LLC

January 2012 – January 2013

PROJECTS

Technical Lead, Pet Mask

Jun 2022 – Present
Description: Mobile demo application for cat face and face landmarks detection to apply filter mask. Entertainment video processing system for projecting 3d objects onto pet's head.
Responsibilities: Leading a team of three CV developers
Technologies: Python, TensorFlow, OpenCV, Face3D

Lead Computer Vision Engineer

Sep 2021 – Feb 2022
Description: Startup in the domain of lip sync and deep fake.
Responsibilities: Supervised and Personalized HQ LipSync R&D. Facial landmark detection. Object detection with R-CNN. Edge computing optimizations (iOS/Android) for real time LipSync. GCP infrastructure architecture and supporting. Time series prediction model with LSTM. TensorFlow vs PyTorch investigation.
Technologies: Python, C++, TensorFlow, Keras, OpenGL, ctype, GCP, PyTorch

Technical Lead

Mar 2021 – Sep 2021
Description: A set of pre-sales in domain of mapping, sensor fusion and 3d reconstruction.
Responsibilities: Object detection with R-CNN/ FasterR-CNN. Image segmentation and object detection. Analytical work with formulas and math models. 3D reconstruction with SLAM from RGBD images. Camera calibration/ autocalibration with MVG methods
Technologies: TensorFlow OD API, Keras, Pytorch, Python, CVAT

Professor Assistant, Academic projects

May 2020 – Ongoing
Description: Academic work at a university and science researchers in a lab.
Responsibilities: Analytical work with formulas and math models. Developing of electromagnetic theory.
Technologies: Python, C++, OpenCV, Keras, ctype

Senior Software Engineer

Feb 2019 – Mar 2021
Description: R&D of market-leading automotive vehicle.
Responsibilities: Object detection with TensorFlow OD API. TFv1 to TFv2

migration. Classification of dataset with XGBoost. Analytical work with formulas and math models. Camera calibration/autocalibration with MVG methods. 3D reconstruction with SLAM from RGBD images. Pipeline optimization with Tensor RT and ONNX.
Technologies: Python, C++, NVTX, TensorRT, CVAT, TensorFlow, ctype

Software Engineer

Jul 2017 – Nov 2018
Description: A set of outsource projects in domain of image classification / segmentation.
Responsibilities: PoC prototyping based on CNN image processing. Image segmentation. High load application development with C++.
Technologies: Python, OpenCV, TensorFlow/Keras, C++, TensorFlow Lite, Qt

Software Engineer

Oct 2016 – Feb 2017
Description: Startup in domain of object tracking with edge computing.
Responsibilities: Developing of dashcam with active tracking of vehicles .
Technologies: C++, OpenCV, CMake

Software Engineer

Sep 2015 – Oct 2016
Description: A set of outsource embedded projects in cutting edge domains.
Responsibilities: Development of firmware for IoT network router. Development of smart parking monitoring system.
Technologies: Embedded C, C++, OpenCV, SQL, Bash, CMake

Researcher, Academic projects

Jan 2013 – May 2020
Description: Academic work at a university and science researchers in a lab.
Responsibilities: Analytical work with formulas and math models. Developing of electromagnetic theory. Antenna synthesizing and modeling. Development of software for numerical simulations.

System Administrator, Models rewriting

Jan 2012 – Jan 2013
Description: Web hosting and domain name registry organization.
Responsibilities: System Administration and Client Support.
Technologies: DNS (bind), TCP/IP, KVM, XEN, GNU/Linux, Gentoo, LAMP, CMS (Joomla, Wordpress, Drupal), Python, Bash, RAID, LVM, Iptables, squid, OpenVPN, Jenkins, Gerrit

PET PROJECTS, AND OTHER IMPACT

Significant publication

- Several personal and team patents
- 10+ international conference thesis with SCOPUS impact
- R. Akhmedov, "Neural Radio in DS-UWB IoT Applications", 2020 IEEE Ukrainian Microwave Week (UkrMW), 2020, pp. 1073-1078

- R. Akhmedov, O. Dumin, V. Katrich "Impulse radiation of antenna with circular aperture" Telecommunications and Radio Engineering, vol. 77, pp. 1767-1784, (2018)

UWB-SP Simulation Software

- Transient electromagnetic field simulation
- library-type software with POSIX computability
- High performance parallel distributed computation
- Interruptible computation with controllable progress
- Python interface for C++ software with ctype
- Flexible Cmake build system
- Implementation of EM simulators in time domain: FDTD, nonlinear evolution approach, MMO
- Data exporting as TensorFlow dataset

Smart Surveillance Camera

- Works with Apple HomeKit (no certification)
- Works with most of IP camera aggregators
- FFMPEG multiuser video stream
- Up to 5 parallel video streams
- Motion sensor based on computer vision algorithms
- Configurable motion sensor
- Image depth estimation mode with single RGB camera

Autonomous Surveillance Bot

- SLAM from couple of RGB cameras
- Autocalibration for compass in 3D environment
- 3D vectorized model of environment as output
- Motion and anomaly detection in selected environment
- Automatic finding and wiring with doc station module
- Target haunt and tracking
- Wi-Fi and Cellular wireless interfaces
- TTY-USB debug interface

EDUCATION

Postgraduate PhD research program attendance, Universidad de Murcia, Murcia, Spain
2017

PhD in Phys & Math, National Transport University
2010-2020,