Todor Lubenov

Software and Geospatial Developer

Personal Info

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Date of birth

1977-04-26

LinkedIn

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Skills

Python - advanced knowledge of the language, frameworks and libraries such as Celery, Django, requests, seaborn, pandas, matplotlib, numpy, Pillow, psycopg2.

advanced

PyTorch, KERAS, Tensorflow, sklearn, dask, numba.

NodeJS, VueJS, LeafletJS, VueCLI 3.0

PostgreSQL, PostGIS, MongoDB, sqlite, Oracle.

Go, Elixir, Crystal, Ruby, TCL.

Software

Oracle Linux 7.x, Ubuntu LTS 14-18.04, Debian, CentOS, RHEL 7.x.

Science addicted environmental engineer with 18+ years of experience in using, building, supporting, designing, securitisation, analysing and developing wide range of domain specific geospatial and IT systems in water resource sector, insurance and spatial market, mining industry, public and government sectors, biodiversity and renewal energy sectors and so on. Vast experience in geospatial and IT technologies both Open Sourced and proprietary products and technologies such as **Python**, **Django**, **PostgreSQL**, **PostGIS**, GDAL, QGIS, **MongoDB**, TCL, **NodeJS**, **VueJS**, **LeafletJS**, OpenLayers, **MapServer**, mapnik, **Celery**, matplotlib, seaborn, **pandas**, numpy, scikit-learn, requests, Redis, **KERAS**, Tensorflow, **PyTorch**, SNAP, **Git**, **GitLab**, **Ansible**, **Oracle Linux**, CentOS, RancherOS, **docker** as well as ArcGIS, ERDAS Imagine, **ESXI**, **VCenter**, Oracle 11g, eCognition, **Pix4D**, AML, Avenue, ArcView, MapInfo. Solid understanding of standards and protocols behind the scene such as WMS, XML, HTTP, JSON, WFS and work as volunteer on the standardisation of some of them. Experienced in Machine and Deep Learning as well as Reinforcement Learning methods and algorithms. Active involve in surrounding world digitalisation especially in geospatial related technologies including data collection, organisation, management, machine and deep learning on the both raster and vector data finding precise relationships or hidden/unknown relations. Passion in aerial imagery related problems such as making maps from drone collected imagery up to building mapping software on top of the imagery products and open source tools such as Vue.js NodeJS LeafletJs etc.

Experience

2017-08 - present

Lead GIS and Software Developer

CoreLogic CLGX

Responsibilities

- Support custom in-house developed geospatial information system on five working environment DEV, STG, UAT, TRN and Production.
- Development and implementation of customer defined features.
- Proofs of Concept in object detection, object recognition, object localisation and segmentation on very high resolution imagery data (up to 5cm/2inch) of features such as buildings footprints, swimming pools and trampolines, trees over roofs, cars and other objects detection and segmentation.
- Continuous integration of software changes as well as third party dependency libraries.

Achievements

- Production systems reach 99.5% uptime.
- Test and play with various architectures and tools for object detection, object recognition, localisation and segmentation including UNET-128, 256, 512, YOLO2 and 3, SSD, VGG-16 and 19. Define several independent model approaches for reach the higher accuracy with respect of the task and data.
- continuous implementation and integration of user requirements was achieved with maximum 2 weeks between requirements specifications and push to Production.

Technologies

- Oracle Linux, Python, Django, PostgreSQL, PostGIS, requests, MapServer, NodeJS, phantomjs, selenium, Celery, Redis, bash, Ansible, VCenter, Git, TFS, Oracle, TCL, SQL, JavaScript, KERAS, Tensorflow, PyTorch, numpy, scikit-learn, dask, matplotlib, seaborn, pandas, AWS S3.

2014 - present

Associated Research

National Institute of Geophysics Geodesy and geography

Responsibilities

- Organise and coordinate National Center of Geospatial Information
- System Design, Research and Development of custom Emissions and mass

Docker - DevOps and orchestration trough docker swarm.

Languages

English - communicate in writing and in speech;

Russian - clear understand in written speech, require time to communicate in speech;

Bulgarian - mother tongue;

balance geospatial system for air processes modelling.
- Design and Development of data centric geospatial systems for different scientific projects related to soil, water and heavy metals researches.

Achievements

- Define data and hardware requirements for the Geospatial Center.
- Developed custom geospatial information systems for air pollutant processing with respect of later use in SMOKE, CMAK and other modelling software packages.

Technologies

- ESXI, ownCloud, Python, Go, Django, PostgreSQL, PostGIS, MapServer, bash, Ansible, Git, GitLab, SQL, JavaScript, NGINX, NodeJS

2015-09 - 2017-08

Lead GIS and Software DevOps

Myriad Development

Responsibilities

- Development of in-house specialised geospatial information system for mass maps production based on spatial parameters (lat, lon) as well as on address geolocation.
- Development of in-house geospatial information system for customer defined determinations on various environmental factors such as fires, flooding risk, parcel boundaries etc. based on lat, lon or address geolocation.
- Development of geolocation service with focus on highest possible accuracy based on both in-house and third party geocoding services such as Google API, Microsoft API, MapQuest, Here Maps API, ArcGIS API etc.

Achievements

- custom geospatial mapping engine was developed with load of 1000000+ maps for 6 months period
- high precision geolocation service was developed beating all available geocoding service with >97% rooftop accuracy for US.
- geospatial determination service was developed transforming data from both in-house and third party data sources in single standardised matrix like product for further usage.

Technologies

- Oracle Linux, Windows 2012 R2, C#, Python, Django, PostgreSQL, PostGIS, MapServer, mapnik, phantomjs, selenium, Celery, Redis, bash, VCenter, TFS, Oracle, SQL, JavaScript

2006-01 - 2018-10

Senior Research Associated

Space Research and Technology Institute

Responsibilities

- Research and Development of projects related to geospatial data processing and educational products.
- Projects proposals preparation and execution.

Achievements

- Several projects related to Remote Sensing Data Application and Usage in Science and Public sector was completed successfully. Corine Land Cover releases 2002, 2012, 2018.
- Specialised courses related to Low Altitude Autonomous Unmanned Aerial Vehicles(UAVs) was released and more than 50 students was onsite trained.
- Two projects related to using and development of the UAVs were win with budget of 2 million euro in total was done successfully.
- participation in series of working groups on community, government and EU level in UAV and Remote Sensing domains.

Technologies

- Ubuntu Server 14.04 LTS - 16.04 LTS, MapServer, Python, Django, PostgreSQL, PostGIS, bash, JavaScript, ArcGIS, ERDAS Imagine, eCognition, QGIS.

Education

1996-09 - 2001-02

University of Forestry

Ecology, Conservation and Restoration of the Environment.

Certificates

2018-11	Python Developer Expert Verified by pluralsight.com
2018-11	NodeJS Developer Expert Verified by pluralsight.com
2018-09	Learning Python for Data Analysis and Visualization
2018-08	Deep Learning and Computer Vision A-Z™: OpenCV, SSD & GANs
2018-07	Machine Learning, Data Science and Deep Learning with Python
2018-07	Deep Learning: GANs and Variational Autoencoders
2018-06	Modern Deep Learning in Python
2018-05	Ensemble Machine Learning in Python: Random Forest, AdaBoost
2018-04	Unsupervised Deep Learning in Python by Lazy Programmer
2018-04	Deep Learning: Advanced Computer Vision
2018-04	Cluster Analysis and Unsupervised Machine Learning in Python
2018-02	M101JS: MongoDB for Node.js Developers
2018-02	M101P: MongoDB for Developers
2017-08	Data Scientist with Python Track certified #7,388 by DataCamp

Publications

2010	Marinov I., Velizarova, E.,Lubenov T. 2010, Assessment of Soil Erodibility of Different Land-Use Types in a Small Mountain Watershed. Catena Verlag GMBH, Advances in GeoEcology 41
2010	Marinov, I., Lubenov, T. 2010, Risky Segments during Floods in Varbitsa River Watershed. Catena Verlag GMBH, Advances in GeoEcology 41
2009	Marinov I., Velizarova, E.,Lubenov T. 2009, Risk of flooding – Activities, parameters and regional peculiarities (Case study: Varbitsa Watershed Basin). Bulletin of the Serbian Geographical Society
2005	Marinov, I., Lubenov, T. 2005, Calculation of Sediment Transport in Rakovitsa Torrent Watershed. Silva Balcanica
2003	Marinov, I., Lubenov, T. 2003, Using ArcGIS 3D and Spatial Analyst for Determination of the Volume of Behind-Barrage Sediment. National and Socio-Economic Effects of Erosion Control in Mountainous Regions. Belgrade

Interests

Data Exploration, Manipulation, Analysing and Processing in all it's forms. Research and Science especially in geospatial and IT domains.