
AYUPOV KAISAR

21st January 1983

Almaty/Kazakhstan

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EDUCATION:

- Bachelor of expert cartographer, Al-Farabi Kazakh National University, Almaty, Kazakhstan.

Short course training:

- "Remote Sensing & GIS Technology and Application" Online Training Course on 2020, India, Centre for Space Science and Technology Education in Asia and the Pacific;
- Remote Sensing Satellite Virtual Ground Station and create application, 2018, China/Beijing, Institute of Remote Sensing and Digital Earth (RADI);
- Lidar remote sensing & Its application, 2017, Dehradun India, Centre for Space Science and Technology Education in Asia and the Pacific;
- Radar remote sensing and processing, 2015, ISRO, Almaty. KGS Space Technology;
- Complete Remote Sensing Image Analysis with ENVI Software, 2012, Moscow, Russia, «Sovzond»;
- ArcGIS Desktop for Spatial Analysis, 2008, ESRI ISTP, Almaty.

PROFESSIONAL SKILLS:

- Open-Source GIS software and web development APIs including Geoserver, Mapserver, Leaflet and OpenLayers;
- Processing multi scale remote-sensing data and analytics using advanced machine learning and statistical models on cloud platform using Python and JavaScript;
- Experience in predictive analytic procedures used in supervised learning (Classification, Regression, Decision trees, Random Forest, SVM, Neural Networks), unsupervised learning (Clustering-k-Means and PCA);
- Development and support of custom integrations, scripted processes, applications and automation models to reduce manual user efforts;
- Processing of multispectral, thermal IR, radar and lidar data, SAR interferometry processing and interpretation;
- Development of software and instrument elements of a UAV control system with a payload for remote sensing tasks.
- Geoprocessing with ArcGIS Desktop, Spatial Analyst and 3D Analyst, geodatabase creation and management, raster and vector processing and analysis, cartography;
- Reporting (reports, publications, seminar and presentations).

TECHNICAL SKILLS:

- **Programming:** Python, Django3, Gdal, JavaScript, React, SQL, C#, .NET, ASP.Net, HTML 5, CSS, Bootstrap, XML
- **GIS&Image Processin:** ArcGIS Desktop, ArcGIS Online and Sever, Earth Engine, Sen2Cor, Python, MapInfo, Quantum GIS, ERDAS Imagine, ENVI, MapGuide OS, Macromine 16;
- **Databases:** PostgreSQL with PostGIS extension, MySQL, sqlite3, MSAccess
- **Editors:** Visual studio, Visual Studio Code, Atom

- **Others:** Dreamweaver, Adobe Photoshop, Illustrator, CorelDRAW, Adobe InDesign, AutoCAD
- **Lab Facilities:** Use of FieldSpec FR (400-2500 nm), Garmin GPS instruments, leaf area index point frame, Li-Cor LAI 2000 plant canopy analyzer, Lidar scanner, Dosimeter-radiometer DKS-96

EMPLOYMENT HISTORY/EXPERIENCE:

| Period | Organization and Title/Position | Summary of Activities & Projects for last year |
|-----------------------------|---|--|
| To 1/6/2013 till present | <p>Employer: Joint-Stock Company "National Center of Space Research and Technology"</p> <p>Position: Head of the Center "Drought Condition Monitoring Center"</p> <p>https://spaceres.kz/en/</p> | <p>Lead in developing and managing remote sensing based environmental monitoring projects and design, development, and implementation of new GIS software.</p> <p>Participation in projects</p> <ol style="list-style-type: none"> 1. 01/2020 - 04/2020 Implementation of the infiltration of the web-application "Interactive maps of pasture resources of Kazakhstan" Position – Geodatabase developer, Front-end developer I have created module to downloading and analysis and geostatistics for Modis satellite imagery on automatically mode 2. 04/2020—10/2020 Development of the web application "Climate Change of the Republic of Kazakhstan" Position – Front-end developer, Expert of Cloud Optimized GeoTIFF (COG) Processing multidimensional data 3. 06/2020—11/2020 Project "Norm of distribution of snow cover on the territory of Kazakhstan". Position - GIS analyst, Front-end developer Generated scripts for snow detection and cloud covering Generated scripts for correlation georeferenced raster data 4. 04 /2020—10/2020 Project "Monitoring the state of grain crops and assessing the productivity of agricultural production using UAVs" (assessment of the state of crops, yield, productivity) Position – automatic data extraction, reprogramming and calculation of vegetation |

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| To 1/5/2007 till present | Employer: "ECOSERVICE-S" LLP Position: GIS analyst/ Remote sensing engineer https://ecoservice.kz/ | <p>Serving as project manager or GIS technical team leader to ensure that work is performed accurately in a timely fashion to meet project goals:</p> <ul style="list-style-type: none"> - supported field projects with GIS capacity-building, training, spatial analysis, and technical assistance - Research experience in ecology, and geological mapping using aerial photographs. - Remote sensing and GIS processing, data management and analysis. <p>1. 05/2019 – 12/2020 Setting targets for environmental quality for the city of Kentau. Position – Remote Sensing/GIS-Analys</p> <p>Design and perform mapping/Spatial analysis/modelling - develop GIS database systems;</p> <p>Determination of degradation using remote sensing data.</p> <p>2. 09/2019 - 09/2020 Project "Ada Oil"</p> <p>Position – Remote sensing</p> <p>Creation of a digital elevation model, selection and processing of high-resolution satellite images</p> <p>Analysis of the state of the vegetation cover.</p> |
| 1/1/2006- 1/6/2007 | Employer: "OHOTPROJECT" LLP Position: CARTOGRAPHER | <p>Full-cycle production of digital cartographic products:</p> <ul style="list-style-type: none"> - Produced cartographic products for hunting area and protected areas; - Digitized GIS data and manipulated data to meet hunting farm needs. |

LANGUAGES:

Kazakh – native

Russian – free

English – intermediate (Axis Education/ Almaty, 2016-2017)

LAST PUBLICATIONS (2020 year):

ANALYSIS OF SUITABILITY OF GLOBAL SURFACE WATER DATA SETS FOR STUDYING THE DYNAMICS OF THE LAKE AREAS IN KAZAKHSTAN/ *Journal of Issues of Geography and Geoecology*, page 24-33

RADIATION SITUATION ON THE TERRITORY OF SHUCHINSK-BOROVSKAYA RESORT AREA AND MEASURES ON THE RADIATION RISKS REDUCTION/ *News of the National Academy of Sciences of the Republic of Kazakhstan. Series of geology and technology sciences*. <https://doi.org/10.32014/2020.2518-170X.86>

INFORMATION ABOUT THE RECEIVED PATENTS, COPYRIGHT CERTIFICATES (2020 year):

Type of copyright object: computer program:

1) *The web application called "E-Lake" # 12631 dated October 16, 2020*

2) *Geospatial web application called "KazakhstanClimateChange" #12633 dated October 16, 2020*