

**GEODATA SCIENTIST: DELIVERING SUSTAINABLE SOLUTIONS TO PUBLIC and BUSINESSES (20+ Years)**

Ag &amp; Environmental R&amp;D | AI for Remote Sensing | Python | Web Maps &amp; Apps | Weather &amp; Crop Models

**EDUCATION**

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| <b>PG Diploma in Machine Learning &amp; AI</b> , EMERITIS (Columbia U Engineering Executive Edu)   | Dec 2020  |
| <b>Ph.D., Soil Science</b> (Thesis on <a href="#">Geophysics, GIS and Geostatistics</a> ). U of Wyoming, Laramie, WY<br>(Advanced Ph.D. Students of Sigma-Delta Honor Society of <b>Agriculture</b> Award, WY Chapter) | 1997-1999 |
| <b>Ph.D., Environmental Biology</b> . Lomonosov State University, Moscow, Russia.  | 1992-1995 |
| <b>MS, Soils &amp; Agro-Chemistry</b> . Lomonosov State University, Moscow. (Rus. Gov. Best MS Thesis Award)   | 1987-1992 |

**CAREER HISTORY****SENIOR GEOSPATIAL DATA STEWARD – Bayer Crop Science (St Louis, MO - remote) June, 2020 - present**

- As a member of agile Location360 Team facilitate imagery, weather, soils and other environmental data/API utilization across Bayer's Global Data Assets while maintaining company IP and data security in hybrid cloud/on-premises environments. Facilitate data "on-boarding" from various platforms and sensors and support business users (US and International) on Win and Mac OS (QGIS, STAC, CKAN, VS Code, Python, MkDocs, GitHub Enterprise).

**DATA SCIENTIST II - RiceTec Inc (Alvin TX) 2016 – June, 2020**

- Developed Python Apps for Image Processing & Feature Recognition (AI)** - "We Innovate" Award, 2019:
  - Automatically combining **SlantRange imagery** collected with multiple flights, to process 60+ Gb of data in 2 clicks
  - Calculating Rice Panicle Flowering % from **raw DJI Drone Imagery** (deployed on **MS Azure Server**, led India team)
  - Rice Seedling Counts **Maps & Reports** from DJI and Sentera cameras (local Flask App, led Eastern Europe team)
- Modeled large **spatio-temporal raster and vector datasets** to quantify **hybrid rice seed production**; proposed statistical and investment algorithms for US Crop Plans in 2017 & 2019 (Revenue increase >\$40M/yr).
- Built **Seed Purity model** based on scouted crop stages and NOAA API – Python (COG reduction >\$300K/yr).
- Facilitated many **discovery projects** involving **Data Science, GIS, and Remote Sensing** with outside companies (ESRI, IBA, SlantRange, AgPixel, Precision Silver, IntelloLabs, SmartField, FieldX, Astrea, Sentera, Taranis, Hylio) and Universities.

**GEO-DATA SCIENTIST I – Rice Technology Solutions Inc (Clear Lake TX) 2011 - 2015**

- Prepared a **strategic plan for unifying Geo-BI** across three RiceTec AG **global** companies, incorporating Genomics/Bioinformatics, ML/Crop Modeling and IoT/Image Analysis.
- Build and maintained ArcGIS Online Cloud featuring rice-related interactive maps and apps – public showcase (>400 private maps and feature layers, managed and trained five users)
- Provided [GIS and data science](#) expertise to support companies' sales, marketing, and production **internationally**.
- Conducted rice (seed and consumer) **econometric** and **environmental** analysis for opportunities in established and potential markets worldwide (**USA, India, China, South America**) supporting **business expansion**.
- Developed Weather **GIS Model** and **Risk Assessment Tool** for expanding business globally (AGOL & Python).

**DEVELOPMENT SCIENTIST - RiceTec Inc (Alvin TX) 2005 - 2011**

- Built historical **rice GIS**, analyzed **Genotype x Environment** Interactions via GGE Biplot, and established five performance-ranked regions in US, which became a marketing campaign tool in 2007-2010 (*Beachell Award* - for **excellence in scientific accomplishment** contributing significantly to company goals, 2007)
- Developed and presented **Geo-Data Analytical Projects** to outside customers: **SmartRice®** - **sustainability** of hybrid rice, reduction of irrigation water, site-specific N fertilizer recommender for **US market**.

**POST DOC GIS SCIENTIST - Rutgers University (Chatsworth NJ) 1999 – 2005**

- Senior PI "Enhanced management of **agricultural perennial systems** (eMAPs) using **GIS and Remote Sensing**" (Initiative for Future **Agriculture** and Food Systems ([IFAFS](#)), \$650,000)

## BUSINESS DEVELOPMENT

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**FOUNDER & CEO - Landviser LLC (Houston TX)** **2001 – present**  
**OWNER – IP “Geo-Pro” (Moscow, Russia)** **est. 2015**  
**OWNER – Landviser s.r.o. (Prague, Czech Republic)** **est. 2020**

- **Invented** (2001) and marketed hand-held geophysical meter – [LandMapper®](#) for precision agriculture, environmental assessment, archaeology & civil engineering.
- Consult **remotely** and facilitate sales / collaborations worldwide on all [products and services](#) offered.
- Drives company’s vision for geophysics & **GIS projects** (ESRI Business Partner); truly **Enlightening Research** <sup>SM</sup> for diverse clients and associates by developing geo-enabled interactive web maps and apps; providing custom system integrations and BI analytics (GIS, Image analysis, Big Data, AI, ML, IoT) of geospatial data across industries; developing custom software solutions (Python scripting, desktop/server/ web/mobile platforms) in temporal/spatial analysis for agriculture, environmental science, climatology and meteorology.
- Developed **Disaster Monitoring** Portal including **Image Visualization** Scripts <https://landviser.maps.arcgis.com>:
  - [COVID19](#) USA, [Storm Watch](#), [Harvey Damage](#),
  - Supported efforts to [alleviate salinity on the farmers’ fields](#) in TX/LA/PR after major hurricanes
  - Extracting GPS and imagery specs info from **JPG Drone Imagery** to plot analysis on the web
- Implemented **Agile R&D - remotely** directing teams of **electronic engineers** and **software developers** to improve our devices’ capabilities as dictated by the current trends in the industry and customers’ feedback.
- Developed **strategic partnerships** with multiple **international geo-technical** software/hardware companies.
- Expanded Landviser’s network to over 1000 qualified leads with geo-technical interests and acquired many repeat customers, including clients from multiple **USDA/NRCS**, **USGS**, DOD and DOE offices, major Universities in US/Europe/Asia/Middle East/South America, and commercial entities.

## TEACHING & INTERNATIONAL CONSULTING

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- 2020-ongoing: **Advisor** and subcontractor on successful PARSEC Business Accelerator Project “[Crop Predictions Take flight](#)” for Computomics GmbH and SiberGeo OÜ (European Union)
- 2020: **Invited Speaker** at Computomics podcast episode 8 “[Using GIS and Sensor Data in Agricultural Research](#)”
- 2018: **Invited Speaker and Consultant** for Japan-Latin America Cooperation Research Group’s Workshop “*Development and Adoption of Latin American Low Input Rice Production System through Genetic Improvement and Advanced Field Management Technologies* (SATREPS)”. @ Cali, **Columbia**
- 2014: **Invited Speaker** at [Agricultural Geophysics Webinar](#) Series: “*Application of Geophysical Methods to Agriculture: Methods Employed*” organized by **USDA NRCS**
- 2014-2015: [SibER-48 /RES3DINV On-site Installation and Training](#) in Electrical Tomography for Academy of Oil & Gas (Cepu) and Bandung Institute of Technology, **Indonesia**
- 2010: Presented “*Back to Basics: Soil EC as a proxy to map other soil properties*” @ 2nd **Africa Agriculture** Geospatial Week. CGIAR-ICRAF. @ Nairobi, Kenya
- 2008-2015: Presented papers at EEGS Annual meetings - SAGEEP (*Symposium on the Application of Geophysics to Engineering and Environmental Problems*)
- 2009: **Invited Speaker** at Bouyoucos Conference for the *Advancement of Geophysical Technologies Applied to Agroecosystems* @ Albuquerque, NM
- 2007: **Invited Keynote** Speaker “*Non-invasive sensors for modern agriculture*”. at 3rd International Symposium on **Intelligent Information Technology in Agriculture** (Beijing, China)

## TECHNICAL SKILLS & CURRENT TRAINING

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- **ESRI Platform:** ArcGIS Pro/ArcMap 10.x – Business, Spatial, and Image Analysts Ext, ArcPy, ArcGIS Dev. Server
- **Cloud GIS:** ArcGIS Online Portals (two) development and management
- **Remote Sensing:** drone image collecting and analytics software: ArcGIS Pro, SlantView, OpenDroneMap; **FAA107 Pilot**
- **Data Sources:** Living Atlas, TIGER Census, [NASS](#), [WHO\(GHO\)](#), [FAO Crops](#), [NASA](#), USDA, EPA, USGS ([flooding](#), [imagery](#))
- **Data Engineering:** Python (Pandas, NumPy, OS, PIL), MS Access, SQL, CSV, JSON, KML, XML, HTML, JPG, TIFF, GPX, HDF
- **Visualization:** MS Excel & Power BI; Python (Matplotlib, Seaborn); WordPress, Drupal
- **Statistics & ML:** probability, ANOVA, regression, prediction, PCA, cluster, SVM; Python (SciPy, Scikit-learn)
- **Python Developer:** Anaconda (Jupyter Lab), VS Code, [MS Azure](#), [GitHub](#), [Stack Overflow](#), REST APIs
- **Physical Models:** customized **Fortran**-based models for **Geostatistics, Hydrology, & Crop Management** DS software
- **CRM:** Salesforce (implemented mapping and reporting ESRI **GIS** plug-ins); vTiger (cloud setup & customized open source)
- **Web Design & SEO:** HTML5, CSS3, PHP, JavaScript, McDocs, CMS ([Drupal 6.0](#) and [WorldPress](#)), cPanel Admin, mySQL
- **Webhost:** manage, prototype and deploy web apps on shared hosting (A2) for Landviser LLC
- **Office in Cloud Admin:** Office365, including SharePoint Sites Admin & collaborative apps; Google for Business Suite Organization Admin @ Landviser, LLC
- **ESRI UC/MOOC:** “ArcGIS Pro... **cloud hosted** virtualization”, “**Spatial Data Science: The New Frontier in Analytics**”, “**Image Analysis**”, “**Leveraging Big Data in ArcGIS**”, “**Planning and Managing a GIS Organization**” (2014-2020)
- **Data workshops:** “**IoT in Action**”, “**Power BI**”, “**Data Wrangling and ML**” by **Microsoft** and DataBricks; IBM Cognitive, MIT, Data Camp classes on demand (2015-2020)

## SELECTED AWARDS, GRANTS & PUBLICATIONS

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2005-06: Co-PI. “Integrated water management for commercial cranberry production in New Jersey”. NJ Blueberry and Cranberry Research Council Competitive Grants. \$17,000.

2001: Williams' Prize for the book “*Stationary electrical fields in soils*” (Russian Ag Academy. New Frontiers in Science)

1998-1999: Individual research grant “*Peat deposits: energetic and ecological aspects of usage*” (MacArthur Foundation. Peace and International Cooperation). \$14,500

**9 grants and more than 50 scientific publications including 4 books, 9 peer-reviewed articles, 11 proceedings, and more than 35 abstracts and conference presentations are available upon request**