

GEOTECH BUSINESS DEVELOPMENT CONSULTANT

Earth & Life Sciences | Climate | GIS | Remote Sensing | Web Maps & Apps | Python

Senior **Environmental Scientist** and **Geotech Business Development Expert** with 20+ years of experience in data analysis for **Earth and Life Sciences**: acquiring data from a variety of sources; QA, cleaning, and curating data; deriving new features and models. Founded Landviser LLC and provided “**Land Advice**” worldwide by **developing efficient solutions** (geophysical sensors and software) to map and monitor **environmental resources**, reduce risks, and support **sustainable development**.

- **Registered USPTO Trademarks:** LandMapper®, Landviser®, and Enlightening Research®
- **Expanded** Landviser’s **network** to over **1000 qualified prospects** with **geo-technical interests** and acquired many **repeat customers**, including clients from multiple USDA/NRCS, USGS, DOD, and DOE offices.
- **Managed Geotech Products Portfolio**, expanded **sales** and **streamlined CRM** for:
 - Compact **geophysical meter**, **LandMapper®** (**invented**, managed **training** and **sales**, **\$230K**, 2003 -)
 - **Subsurface 2D/3D imaging software** of GeoTOMO Software (global sales/marketing, **\$248K**, 2006-2017)
 - **Geophysical instruments** of KB Electrometry, SiberGeo, etc. (global sales/support, **\$421K**, 2013 -)
 - **Geotechnical software** of AGS and SEEQUENT (global sales/support **Channel Partner**, **\$184K**, 2018 -)
 - **ArcGIS Software Platform** (**ESRI Business Partner**, **500+** maps/apps, **trained 20+ users**, 2019 -)
 - **Geospatial data analysis** and **field surveys** – multiple clients worldwide (**\$152K**, 2019 -)
- **Ran marketing** and **educational** campaigns (conference **presentations**, social media posts, blogs, vlogs, technical manuals, training courses, and whitepapers) for all **Geotech products** above.
- **Published** 50+ works including 4 books, 9 peer-reviewed articles, 14 proceedings, and >40 abstracts.
- **Served** as **PI/coPI** in **11 granted projects** from government and private agencies in **USA** and **EU** focused on geo data management, **renewable energy**, environmental quality, and **land development**.
- **Set up** and developing Landviser XYZ – CRM, Learning, and **Project Management** Portal & Mobile App for **environmental geo services** - <https://in.landviser.xyz>
- **Designed** and maintained [Landviser.com](https://landviser.com) website (HTML, CSS, JScript, PHP, **WordPress**, Drupal, cPanel)
- **Developed** Geo-Software (**Python**): UAV imagery ML, crop DSS, weather modeling, land mapping.

EDUCATION**PG Diploma in Machine Learning & Artificial Intelligence (ML & AI)**

EMERITUS & Columbia University Engineering Executive Education, NY

2020-2021

Ph.D., Soil Science (Thesis on [Geophysics](#), [GIS](#) and [Geostatistics](#)).

University of Wyoming, Laramie, WY

1997-1999

Ph.D., Environmental Biology

Lomonosov State University, Moscow, Russia

1992-1995

CERTIFICATIONS**Texas Ideation Discovery Camp** - competitive program in **collaborative design thinking** (WKImethod) SBDC **Technology Commercialization**, Univ of Texas San Antonio

2022

Climate Services for Adaptation using Copernicus – **led international study group** and **presented**[Exemplary Case Study on Rice Crop Climate Adaptation](#), Wageningen University, NL

2021

Python for Data Science Certificate – EMERITUS

2020

DOT-FAA Certified Remote Pilot 107 - SMALL UNMANNED AIRCRAFT SYSTEM

2019

DSSAT Ver. 4.5: Assessing Crop Production, Nutrient Management, Climatic Risk and Environmental Sustainability with Simulation Models – ICASA & the University of Georgia, GA

2008

EMPLOYMENT HISTORY**ENVIRONMENTAL DATA CONSULTANT – Landviser, LLC** (Houston, TX)(work from home office or at clients' field sites, self-employed, ~30 hours/week) **June 2021 – Present**

Landviser LLC is my personal consultancy. I consult on **geophysics**, **remote sensing**, and **GIS** projects for diverse clients by developing geo-enabled **interactive web maps** and **apps** and providing system integrations and BI analytics (GIS, Image analysis, Big Data) of **geospatial** data across industries:

- Presented seminar “**Geophysical Sensors and Mechanistic Models** Aid Sustainable Farming” for **USDA ARS** Adaptive Cropping Systems Laboratory, Beltsville, MD (Aug 2023).
- Developed an **API** (2023) and spatial database (Flask, PostgreSQL, Python) for rescaling **soil properties** from **SSURGO** database to a whole-field basis to estimate **GHG emission** during rice production.
- **Satellite imagery analysis**, literature search, and report preparation to quantify pistachios vigor improvement in response to artificial pollination for Satellite Imaging Corp (TX) and Edete (Israel).
- **Instructor** for “**Electromagnetic Induction Instrument** for Fast Mapping of **Soil Corrosivity**” - onboarding documentation and 3-day remote training workshop in AEMP-14, GPS, and data interpolation in GIS (QGIS, Surfer, and ArcGIS) for *Allied Engineers Inc: India & Saudi Arabia pipeline monitoring projects* (crew of 12 people, 500+ km surveyed under my remote guidance, 2022)
- Led **field geophysical surveys** (Nov 2021 and Mar 2022) for archaeology and agriculture and integrate **LIDAR imagery** with **on-the-ground geophysical sensors** data, popularizing soil science, **geophysics**, GIS, and remote sensing among communities in TX, IA, and IL.

As a scientific editor for **Environmental Science**, **Energy**, and **Sustainability** topics for CACTUS Communications (remote contract, Aug - Dec 2022), I helped ESL researchers publish their works in high impact journals by leveraging my **expertise** in **technical English writing** and scientific publication process compliance at major publishers (Springer, Elsevier, Wiley, SEG, etc.).

As a **remote consultant** for PARSEC Consortium of two EU startups I prepared a successful grant proposal “*Crop Predictions Take flight – Linking Genomics and Geophysics*” under HORIZON2020 research and innovation program (Dec 2020 – Nov 2021). My R&D contributions:

- Linked crop **genotype** with **Earth Observation** (EO) data improving ML crop phenotype prediction model for Computomics GmbH (Germany),
- Coordinated R&D for **EMGeoDrone** for SiberGeo (Estonia) integrating geophysical **sensor's data streams** with EO data and developed training materials for end-users.

SENIOR GEOSPATIAL DATA STEWARD**Bayer Location360** (contractor via Rose International IT staffing agency)

(remote from home office, full time, 40 hours/week)

June 2020 – May 2021

At agile **Location360** IT Team I facilitated **imagery**, climate, **soils**, customers, and geopolitical data/APIs **QA** across **Bayer's Global Data Assets** while maintaining company IP and client data security:

- Supported internal business users on **Win** and **iOS**,
- Developed technical documentation for internal **GIS Knowledge Portal** (MkDocs, MS SharePoint),
- Automated Python scripting for **imagery collection migration** (GitHub Enterprise, VS Code),
- QA/QC on geopolitical dataset (multiple countries) from external vendor (QGIS, PostgreSQL).
- Participated in daily **Scrum** meetings for **Imagery Vertical** team, helped with **code review** and testing
- Served as a **liaison between software developers** and **business project owners**

DATA SCIENTIST II - *RiceTec Inc* (Alvin, TX)

(field, lab, and office work, full-time, 40 hours/week)

Jan 2016 - June 2020

Led projects involving **geospatial analysis** of **rice genetics**, **environments**, and **farm management** data. Nurtured relations with RiceTec's seed production agronomists and tech support reps as well as with external crop consultants, rice farmers, university researchers, service providers, and business partners:

- Coordinated crop management data collection through **SmartRice** Initiative (since 2015), developed training manuals, prepared, and analyzed data on sustainable fertilizer and water usage.
- Analyzed multi-year multi-rate **nitrogen fertilizer** trials and developed recommendations for rates and management based on hybrid genetic makeup and soil types.
- Analyzed 10+ years of hybrid seed production geospatial data to optimize annual planting plan based on whole field's soil quality and yield potential.

Developed **Python applications** and **trained internal "Drone Team"** on best practices in **image collecting** and **processing** (RiceTec's *We Innovate* Award, 2019):

- Calculate Rice Flowering % from raw **DJI Drone Imagery** (MS Azure Server, **led** India dev team)
- Rice Seedling Counts **Maps** from **DJI** and **Sentera cameras** (Flask App, **led** Eastern Europe team)
- Weather **GIS Risk Assessment Tool** for expanding business globally (Jupyter NB, ArcGIS Pro)

GEO-DATA SCIENTIST I - *Rice Technology Solutions Inc* (Clear Lake, TX)

(field and office work, full-time, 40 hours/week)

Aug 2010 – Dec 2015

Prepared a **strategic plan** for unifying **Geo-BI** across three RiceTec AG global companies, incorporating GIS, **Remote Sensing**, Environmental Analysis, and **Crop Modeling**:

- Build and maintained **ArcGIS Online Portal** featuring rice-related interactive maps and apps (>400 private maps and feature layers), managed, and trained 10 users.
- Managed data collection and GIS modeling to alleviate salinity on the farmers' fields in TX, LA, and PR after hurricanes.
- Conducted rice (seed and consumer) econometric and environmental analysis for opportunities in established and potential markets worldwide (USA, India, China, LATAM) supporting business.

DEVELOPMENT SCIENTIST *RiceTec Inc* (Alvin, TX)

(field and office work, full-time, 40 hours/week)

Sept 2005 – July 2010

Established RiceTec's GIS program and trained tech service specialists and agronomists in GIS-driven farm management. Presented research fundings at farmers' meetings in TX and other rice-growing regions.

Analyzed **Genotype by Environment** interactions in hybrid rice seed production in USA and worldwide (RiceTec's *Beachell Award* - for **excellence in scientific accomplishment** contributing significantly to company goals, 2007):

- Build historical **GIS** of company's and universities' **rice hybrids** and **varieties yield trials**, analyzed **Genotype x Environment** interactions, and established **five performance-ranked regions** in the US.
- Analyzed heterotic block field trials determining heterotic groups, which were used for selecting the most promising parent lines for crossing to increase hybrid yields through maximizing heterosis.

ASSOCIATE GIS SCIENTIST - *Rutgers University* (Chatsworth, NJ)

(field, lab, and office work, full time, 40 hours/week)

Aug 1999 – July 2005

Assisted in teaching Soil Science, Soil Physics courses, presented research fundings at farmers' workshops and scientific conferences. Wrote three successful grant proposals to support **precision agriculture** practices on **high value perennial crops**:

- **USDA-NASA Grant**: Co-PI on "Enhanced management of agricultural perennial systems (eMAPs) using **GIS** and **Remote Sensing**" in Initiative for Future Agriculture and Food Systems (**IFAFS**) Program, \$650 000, Rutgers University, my contribution valued at \$300 000 in proposal preparation and subsequent research and extension activities **2001-2006**

RESEARCH and TEACHING ASSISTANT - *University of Wyoming* (Laramie, WY)

(part-time, during graduate study, 20 hours/week)

July 1997 – Aug 1999

Presented at ASA-CSSA-SSSA annual meetings and other conferences, wrote scientific publications. Served as Teaching Assistant in graduate courses on Soil Physics (**water flow computer modeling**) and Geostatistics using GSLIB, ArcView 3.1, and **FORTTRAN**. Conducted research on:

- Application of **statistical** and **geostatistical** methods for accuracy and cost-efficient sampling design.
- **Individual Research Grant** #97-47047-FSU "**Peat deposits: energetic** and ecological aspects of usage" John D. and Catherine T. **MacArthur Foundation**. Program on Peace and International Cooperation. \$14,955, **1997-1998**

TECHNICAL SKILLS

- **GIS & Earth Observation Data**
- **Data Sources**: Copernicus, TIGER Census, NASS, [WHO\(GHO\)](#), FAO Crops, [NASA](#), USDA, EPA, USGS ([flooding](#), [imagery](#))
- **Open-Source GIS**: QGIS, PostgreSQL, GDAL-based libraries
- **ESRI Platform**: ArcGIS Pro/ArcMap 10.x – Business, Spatial, and Image Analysts Ext, ArcPy
- **ESRI UC/MOOC**: "*Spatial Data Science: The New Frontier in Analytics*", "*Image Analysis*", "*Leveraging Big Data in ArcGIS*", "*Do-it-Yourself Geo Apps*" (**2014-2021**)
- **Cloud GIS**: ArcGIS Online Portals (three) development and management
- **Remote Sensing**: developed **UAV image collecting** and **analytics** software, **FAA107 Pilot**
- **Climate Services for Change Adaptation** from **Copernicus Climate Data Store (CDS)**
- **Data Science**
- **Data Engineering**: Python (Pandas, GeoPandas, NumPy, OS, PIL, OneHotEncoder), MS Access, SQL, CSV, geoJSON, KML, XML, HTML, JPG, TIFF, GPX, NetCDF
- **Visualization**: MS Excel & Power BI; Python (Matplotlib, Seaborn);
- **Physical Process Models**: modified Fortran models for **Geostatistics, Hydrology, & Crop Management**
- **Statistics & ML**: probability, ANOVA, regression (ridge, logistics, lasso), supervised and unsupervised classifications (random forest, KNN, SVM), recommenders, PCA, model selection, feature importance; Python (SciPy, Scikit-learn)
- **AI**: constraints, reinforcement learning, logical agents; Python (geo-image recognition, time series)
- **Python Developer**: Anaconda (Jupyter Lab), VS Code, [GitHub](#), REST APIs, Google Colab
- **Business Systems' Admin and Web Developer**
- **Web Design & SEO**: HTML5, MkDocs, CMS ([Drupal](#) and [WordPress](#)), cPanel Admin, MySQL
- **Webhost**: prototype, stage, test, and deploy web apps on **shared hosting** (A2)
- **Office in Cloud Admin**: Office365 + **SharePoint Sites**; **Google Workspace Suite**