

# Mathias Baumgartinger-Seiringer

🔗 Computer Scientist. 🎓 Academic.

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📍 Vienna, Vienna, AT

My name is Mathias Baumgartinger-Seiringer. I am a creative developer that is passionate about craftsmanship surrounding software, games and other digital creations. Also, I am a firm believer in free and open source tools.

## Experience

### BOKU University

Oct 2021 – Oct 2025

📍 Austria, Vienna

#### Research Associate

*Developing & writing scientific articles*

*Visualizing big geospatial data using game-engine Godot*

*Analyzing and manipulating of geospatial data in python*

*Landscape planning and development for energy-infrastructure*

*Conducting of digital stakeholder-workshops with innovative input methods*

*Assistance in administrative and organizational matters*

*Maintenance and creation of project websites using Hugo*

- GIS
- Godot
- Geodata
- Python
- PyTorch
- Django
- Workshops

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### BOKU University

May 2020 – Oct 2021

📍 Austria, Vienna

#### Freelancer

*Visualizing big geospatial data using game-engine Godot*

*Analyzing and processing of geospatial data*

*Development of a GIS-based serious game for energy-infrastructure*

- GIS
- Godot
- Geodata
- Python
- Django
- Serious Games
- Landscape Planning

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### BOKU University

Feb 2020 – Apr 2020

📍 Austria, Vienna

#### Internship

*Visualizing big geospatial data using game-engine Godot*

*Development of Virtual Reality features in Godot for large scale landscape visualization*

*Analyzing and manipulating of geospatial data*

*First impressions of landscape planning and development*


- GIS

- Godot
- VR-Development
- Landscape Planning

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## BOKU University

May 2019 – Jan 2020

 Austria, Vienna

### Freelancer

*Visualizing big geospatial data using game-engine Godot*

*Gameplay and user-interface design*

*Analyzing and processing of geospatial data*


*Conceptualizing a GIS-based serious game for energy-infrastructure*

- GIS
- Godot
- Game-Development
- VR-Development
- Serious Games
- Python
- Django

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## Lenzing AG

Jul 2019 – Aug 2019

 Austria, Lenzing

### Internship

*Development of internal Web-Tools using ASP.NET MVC and Microsoft SQL*


*Insights into automation- and production-processes*

- ASP.NET MVC
- C#
- MSSQL

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## Jugendzentrum YouX

Jul 2018 – Jul 2018

 Austria, Vöcklabruck

### Internship

*Support during open operations, organization of workshops/events, and reliable handovers*


*Teamwork in shift operations, support during workshops/events*

- Communication
- Organization
- Teamwork

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## Jugendzentrum YouX

Oct 2016 – Jun 2017

 Austria, Vöcklabruck

### Civil Service

*Support during open operations, organization of workshops/events, and reliable handovers*

*Teamwork in shift operations, support during workshops/events*


- Communication
- Organization
- Teamwork

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## Education

### University of Vienna

Oct 2020 – Present

 Austria, Vienna

#### MSc. in Computer Science

*Selected Coursework: Foundations of Data Analysis, Advanced Software Engineering, Advanced Topics in Internet Computing & Software Technologies, Visualisation and Visual Data Analysis, Advanced Topics in Computer Graphics, Scientific Data Management, Advanced Software Engineering, Numerical Algorithms*

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### University of Applied Sciences Technikum Wien

Sep 2017 – Jul 2020

📍 Austria, Vienna

## BSc. in Computer Science

*Selected Coursework: Introduction to Computer Science, Operating Systems and Computer Architectures, Data Modeling & Databases, Fundamentals of Programming 1 & 2, Fundamentals of Networking, Computer Science and Society, Mathematics 1 & 2, Applied Mathematics 1 & 2*

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## BRG Schloss Wagrain

Sep 2012 – Jun 2016

📍 Austria, Vöcklabruck

## A-Levels in Natural Sciences

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## Volunteer

### Social Market

Jan 2020 – Aug 2020

📍 Austria, Vöcklamarkt

### Temporary Worker

*Temporary worker during the coronavirus pandemic to ensure operations continue.*

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## Skills

### 🔧 Backend & APIs (Advanced)

REST API Design, Microservice Architecture, Auth, Accounts & Security, SQL and Database Modeling, Database modeling

### 🌐 Geospatial & Remote Sensing (Advanced)

GDAL / OGR, QGIS and QField, Remote Sensing, Land-use / Land-cover, Semantic Segmentation, TorchGeo, OpenStreetMap (OSM)

### 🔧 DevOps, Data & Infrastructure (Intermediate)

Docker / Docker Compose, Linux Server Admin, NGINX (reverse proxy), AWS Hosting, NumPy / Pandas / GeoPandas, CLI Geoprocessing (GDAL, ogr2ogr), Git / GitHub

### 👥 Research, Facilitation & Product (Advanced)

Scientific Writing, LaTeX, Inter- and Transdisciplinary Research, Workshops & Facilitation, Questionnaire Design, Stakeholder Engagement, Requirements Engineering

### 🔧 Frontend & Web (Intermediate)

SPA Architecture (Vue.js, SAPUI4), JavaScript, HTML5 / CSS3, Bootstrap, Tailwind, Static sites (Jekyll, Hugo)

### 🧠 Machine Learning & AI (Advanced)

Python, PyTorch, Computer Vision, Deep Learning, Experiment Design, Model Evaluation

### 🎮 3D & Visualization (Godot) (Intermediate)

Godot Engine, Custom Shaders, Landscape Visualization, Interactive Demos

## Languages

🗣️ German — Native Speaker

📖 Latinum — Intermediate Latin Certificate

🗣️ English — Professional Working Proficiency

## Interests

🎵 Music & Concerts

🧗 Bouldering

🍳 Cooking

🎮 Video Games

✈️ Travel

📷 Photography

## Awards

**Energy Globe Wien 2022** (Apr 2023) — Energy Globe Foundation Recognized for exceptional contributions to climate protection.

## Publications

**Concepts of Virtual Reality in GIS** (May 2020) Bachelor Thesis [\[link\]](#) Due to the rapid progress of virtual reality hardware, these technologies are no longer niche products. Together with the much easier access to open geodata, new possibilities for procedural visualizations have opened up, combining Virtual Reality and GIS (VR-GIS) technologies. In this bachelor thesis a prototypical implementation of a modern VRGIS software is presented, including concepts for movement, orientation and visualization of data.

**Large-Scale Agrivoltaics Visualisations for Assessing Landscape Impacts and Social Acceptance** (Feb 2024) AgriVoltaics Conference Proceedings [\[link\]](#) Research article on large-scale agrivoltaics visualizations and their role in assessing landscape impacts and social acceptance.

**Fencing Virtual Landscapes: Using GIS to Identify and Classify Fences and Hedges for More Accurate Landscape Visualizations** (Jun 2025) Journal of Digital Landscape Architecture [\[link\]](#) Conference paper on using GIS to identify and classify fences and hedges for more accurate landscape visualizations.

**Real-Time VR Landscape Visualization for Wind Farm Repowering: A Case Study in Eastern Austrian World Heritage Sites** (Jun 2024) Journal of Digital Landscape Architecture [\[link\]](#) Conference paper presenting a case study on real-time VR landscape visualization for wind farm repowering in Eastern Austrian World Heritage Sites.

**Windenergie im Spannungsfeld: Gesellschaftliche Akzeptanz, ökologische Herausforderungen und innovative Lösungen** (Feb 2025) Poster presentation Poster presentation on wind energy in areas of tension: societal acceptance, ecological challenges, and innovative solutions.

**Photovoltaik, Mensch und Biosphäre: Ein transdisziplinärer Ansatz zur Förderung der alpinen Resilienz** (Jun 2023) Poster presentation [\[link\]](#) Poster presentation on a transdisciplinary approach to promote alpine resilience through photovoltaics, human interaction, and biosphere considerations.

## Selected Projects

### WIMBY - Wind in My Backyard

Jan 2023 – Mar 2026

*Development of innovative tools to facilitate citizen and stakeholders interaction, knowledge sharing, and collaborative evaluation of impacts, conflicts, synergies and social innovation potential of wind energy.*

- Wind Energy
- Stakeholder Engagement
- Social Innovation
- Impact Assessment

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### BioPV

Nov 2022 – Dec 2025

*Photovoltaics, people and the biosphere: a transdisciplinary approach to promote alpine resilience.*

- Photovoltaics
- Transdisciplinary Research
- Alpine Ecosystems
- Sustainability

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### LandscapeLab

Jan 2019 – Present

*An open kit for developing game-based participatory landscape-planning tools.*

- Godot Engine
  - Participatory Planning
  - Game-Based Tools
  - Open Source
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