Mathias Baumgartinger-Seiringer

</> Computer Scientist. 📖 Academic.

✉ mathias.baumgartinger@proton.me
📞 +43 680 1311072
🔗 https://mathias.toothgap.at
📍 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

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

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

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

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

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

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

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
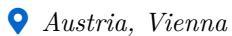
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University of Applied Sciences Technikum Wien   Sep 2017 – Jul 2020
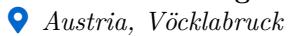
BSc. in Computer Science

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

BRG Schloss Wagrain   Sep 2012 – Jun 2016
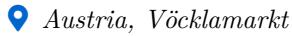
Austria, Vöcklabruck

A-Levels in Natural Sciences

Volunteer

Social Market   Jan 2020 – Aug 2020

Austria, Vöcklamarkt

Temporary Worker

Temporary worker during the coronavirus pandemic to ensure operations continue.

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

BioPV   Nov 2022 – Dec 2025

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

- Photovoltaics
- Transdisciplinary Research
- Alpine Ecosystems
- Sustainability

LandscapeLab   Jan 2019 – Present

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

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