

# Samuel Gratzl

DATA VISUALIZATION ENGINEER · RESEARCH SCIENTIST

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*Toolsmith and Mapmaker for explorers of the information landscape on their treasure hunt for valuable insights*

## Summary

Data Visualization Engineer and Full Stack Developer with 7+ years experience specializing on visual data exploration of big heterogeneous data in research and development environments. Senior Software Engineer with the heart of a researcher that is quickly adaptable to new technologies and environments depending on the project's needs. Analytical and independent thinker with excellent problem solving skills and high passion about his work. Efficient worker with a high sense for product quality to reduce maintenance costs and increase customer satisfaction.

## Education

### Johannes Kepler University

Linz, Austria

#### PHD. IN COMPUTER SCIENCE

10/2012 – 04/2017

- Thesis: Visually Guiding Users in Selection, Exploration, and Presentation Tasks
- Graduated *Promotio sub auspiciis Praesidentis rei publicae* – highest possible graduation in Austria.
- Won Award for Excellence for best dissertation given by the state of Austria in 2017.

#### MSC. IN PERVASIVE COMPUTING

04/2010 – 10/2012

- Graduated with highest distinctions.
- Received scholarships for excellent performance as a student in 2010 and 2012.

#### BSC. IN COMPUTER SCIENCE

10/2006 – 04/2010

- Graduated with highest distinctions.
- Received scholarships for excellent performance as a student in 2007, 2008, and 2009.

## Professional Experience

### Kitware Inc.

Clifton Park, NY, USA

#### SENIOR R&D ENGINEER TRAINING

09/2019 – 12/2019

- Designed and implemented critical scalable visualizations and backend analyzes algorithms for the Metabolomics project.
- Migrated the Slicer CLI Girder plugin in 25% of the planned time.
- Designed and implemented a visual analysis application that allow analysts to efficiently explore the submissions of the International Skin Imaging Collaboration challenge.

### datavisyn GmbH

Linz, Austria

#### CO-FOUNDER AND CHIEF TECHNOLOGY OFFICER (CTO)

11/2016 – 04/2019

- Designed the architecture and implemented the Target Discovery Platform (TDP) with a focus on high extensibility and customizability. TDP is the foundation of all products of datavisyn and one of the three pillars of its business model.
- Built and deployed overall CI/CD infrastructure both in-house and on-premise focusing on high-availability, fault tolerance, and low maintenance.
- Lead on-site customer workshops focusing on requirements engineering, customer training, and initial prototype implementation.
- Was the product owner for two agile customer projects which ended both in time and budget with highest customer satisfaction.
- Implemented critical features in all (4+) customer projects of datavisyn.
- Made customers happy through continuous customer support via Slack and quick response times.
- Lead, trained, and mentored the three junior developers.
- Did code reviews, introduced style guidelines, and introduced continuous testing to improve overall code quality.
- Ensured the headstart of the company over competitors through integrating new technologies and frameworks.

### Johannes Kepler University

Linz, Austria

#### PRE- AND POSTDOCTORAL ASSOCIATE

11/2012 – 12/2017

- Implemented research prototypes in a industrial quality that are used by companies such as Microsoft or Boehringer Ingelheim.
- Wrote, published, and presented research papers on Information Visualization that won best paper awards.
- Supervised Bachelor and Master students through all phases of their thesis projects.
- Wrote grant applications resulting in four projects with a budget of 1.5 million Euros in total.
- Designed, taught, and graded lab classes on Computer Graphics and Information Visualization.

# Research and Teaching Experience

## Immersive Analytics Lab, Monash University

VISITING RESEARCHER

Melbourne, Australia

04/2019 – 06/2019

- Led the project on the online visual interaction of the MiniZinc constraint programming language.
- Visualized and analyzed study results of different performance measurement refactorings.  
LineUp.js

## Institute for Computer Graphics, Johannes Kepler University

PRE- AND POSTDOCTORAL ASSOCIATE

Linz, Austria

11/2012 – 12/2017

- Researched on Guided Visual Exploration with a focus on the biomedical domain.
- Published award winning publications in high profile conferences and journals.
- Collaborated with national and international partners in the Caleydo project.
- Designed and conducted user studies.
- Presented my work at conferences.
- Wrote research project grants.
- Taught Computer Graphics, Information Visualization, and Visual Analytics lab.
- Designed and implemented the Phovea Web Analytics platform.

## Hagenberg University of Applied Sciences

LECTURER FOR BIG DATA ANALYTICS AND VISUALIZATION CLASS

Hagenberg, Austria

11/2016 – 01/2019

## Salzburg University of Applied Sciences

LECTURER OF WEB VISUALIZATION CLASS

Urstein, Austria

11/2016 – 01/2018

## Imperial College London

TEACHING ASSISTANT FOR INFORMATION CLASS

London, UK

Spring 2016

## Pfister Lab, Harvard University

RESEARCH FELLOW AND TEACHING ASSISTANT FOR CS171

Cambridge, MA, USA

Winter 2015

## Institute for Computer Graphics, Johannes Kepler University

TEACHING ASSISTANT FOR COMPUTER GRAPHICS LAB AND MIXED REALITY CLASS

Linz, Austria

03/2010 – 07/2011

# Skills

<b>Programming</b>	TypeScript, JavaScript, Python, Python, R, SQL
<b>Frontend</b>	React, Material UI, Vue.js, Vuex, Vuetify, Vuex, D3, Vega, Redux, MobX, HTML5, Bootstrap, CSS, SASS, Webpack, Rollup.js, Eslint
<b>Backend</b>	Node.js, Flask, Django, REST API, OpenAPI, GraphQL, SQLAlchemy, Numpy, Pandas
<b>Databases</b>	Postgres, MongoDB, Redis, Neo4j, Elasticsearch
<b>DevOps</b>	Docker, Docker Compose, Kubernetes, AWS, Google Cloud, CircleCI
<b>Tools</b>	Github, Git, Toggel, Trello, Slack, VS Code, Jupyter, RStudio
<b>Profound in</b>	Software Architecture, Design Pattern, Test Driven Development, Agile Project Management
<b>Learning</b>	Maschine Learning, Deep Learning, High Performance Computing, Go, Rust, PyTorch, Tensorflow
<b>Languages</b>	German (native), English (fluent)

# Honors & Awards

## PERSONAL

2018	<b>Excellence Scholarship</b> , Ministry for Science and Research of Austria	Vienna, Austria
2018	<b>Promotio sub auspiciis Praesidentis rei publicae</b> , Ministry for Science and Research of Austria	Vienna, Austria
2017	<b>Award of Excellence</b> , State of Austria	Vienna, Austria
2015	<b>Human Technology Interface Award</b> , State of Styria	Graz, Austria
2015	<b>Dissertation Scholarship</b> , State of Upper Austria	Linz, Austria
2014	<b>Marshallplan Scholarship</b> , Austrian Marshallplan Foundation	Vienna, Austria

## RESEARCH

2017	<b>Best Poster Award</b> , IEEE Information Visualization (InfoVis'17)	Phoenix, USA
2016	<b>Honorable Mention Best Paper Award</b> , EG/VGTC Conference on Visualization (EuroVis'16)	Groningen, NL
2015	<b>Honorable Mention Best Poster Award</b> , IEEE Information Visualization (InfoVis'15)	Chicaco, USA
2014	<b>Honorable Mention Best Paper Award</b> , IEEE Information Visualization (InfoVis'14)	Paris, France
2013	<b>Best Paper Award</b> , IEEE Information Visualization (InfoVis'13)	Atlanta, USA