Jakob Troidl

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About

I am a master's student in computer science at the Vienna University of Technology (TU Wien) who is deeply interested in data visualization, biomedical imaging, and computer graphics. My latest research focuses on applications of data visualization in neuroscience and climate sciences. When I am not prototyping new ideas, I enjoy rowing, reading philosophy, hiking, or just being in nature.

Education

TU Wien — Vienna, Austria
M.Sc. in Visual Computing, Advisor: Prof. Eduard Gröller — 2019–Present

- Focus: Data Visualization, Biomedical Imaging, Computer Vision
- Current GPA: 1.0/1.0

TU Wien — Vienna, Austria
B.Sc. with Honors in Medical Informatics, GPA: 1.45/1.0 — 2015–2019

- Thesis: Flow Visualization on Curved Manifolds
- Among the top 5% of all computer science students

Experience

Harvard University — Cambridge, MA
Research Fellow with Prof. Hanspeter Pfister — 02/2020 - 08/2020

- Scalable Comparison and Neighborhood Analysis of Nanoscale Brain Structures
- Development and design of a visual analysis tool to compare high resolution EM data

Brainlab AG — Munich, Germany
Research Intern — 06/2019 - 08/2019

- Mixed Reality for 3D Medical Visualization
- Explored the potential of Mixed Reality in a clinical usecase

King Abdullah University of Science & Technology (KAUST) — Thuwal, Saudi Arabia
Research Intern with Prof. Markus Hadwiger — 02/2019 - 05/2019

- Observer Relative Flow Visualization in Curved Spaces
- Co-authored a publication which won the SciVis Best Paper Award at IEEE VIS 2020

Brainlab AG — Munich, Germany
Research Intern — 08/2018 - 01/2019

- Path Tracing for Realtime 3D Medical Visualization
- Worked on intraoperative navigation for neurosurgery

Jetsam GmbH — Regensburg, Germany
Software Development Intern — 08/2017 - 09/2017

- Developed a face recognition system for marketing purposes

Publications

[1] P. Rautek, M. Mlejnek, J. Beyer, J. Troidl, H. Pfister, T. Theußl, and M. Hadwiger, "Objective observer-relative flow visualization in curved spaces for unsteady 2d geophysical flows", *IEEE Transactions on Visualization and Computer Graphics*, 2020.

Teaching

- **Teaching Fellow** at TU Wien — Fall 2020
  Selected Chapters from Medical Visualization
- **Teaching Fellow** at TU Wien — Spring 2017, Spring 2018
  Introduction to Visual Computing
- **Teaching Fellow** at TU Wien — Fall 2017
  Introduction to Computer Engineering

Skills

- **Coding:** C++, Python, Matlab, HTML, CSS, Java-Script, Java
- **Tools:** Unity, QT, CMake, Latex

Languages

English, German, Latin

Scholarships and Awards

- Best SciVis Paper, IEEE VIS 2020 (among the best 3 papers out of 211 accepted papers) — 2020
- Scholarship, Austrian Marshall Plan Foundation (9.100$) — 2020
- Bachelor with Honors, TU Wien (among the top 5% of CS students at TU Wien) — 2020
- Short-term grant for scientific work abroad, TU Wien (3.100$) — 2020
- Merit Based Scholarship, TU Wien (1.000$) — 2018

References

- **Eduard Gröller**, Associate Professor, TU Wien
  groeller@cg.tuwien.ac.at
- **Markus Hadwiger**, Associate Professor, KAUST
  markus.hadwiger@kaust.edu.sa
- **Johanna Beyer**, Research Associate, Harvard University
  jbeyer@g.harvard.edu