Benedikt Kantz, BSc.

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Education

Technical University, Austria (ongoing) *Sep 2019 - Oct 2024 (expected)*
Master's Degree Programme Computer Science

Technical University, Austria *Sep 2019 - Aug 2022*
Bachelor's Degree Programme Information and Computer Engineering

HTL Mössingerstraße, Austria *Sep 2013 - Apr 2018*
higher technical education institute for technical informatics and electronics

Skills

Languages:	German, English
Programming:	Python, C++, JavaScript, Java, C#
Software & Tools:	**Backend:** NodeJS, Java
	Frontend: VueJS, React, three.js, D3js
	Others: Embedded systems, OpenGL, CUDA

Work Experience

IGTE, IAIK, IGI & CGV, Technical University Graz, Austria Oct 2020 - Jun 2024
Teaching Assistant
- creating & assessing assignments for electrical engineering & computer science
- teaching practical examples to small groups of students
- lab assistant: teaching students the basics of applied electrical engineering
- preparing frameworks & testing environments for programming courses
- Assisted lectures:
  - Fundamentals of Electrical Engineering – practical & laboratory
  - Object-oriented programming 2 – design practical
  - Computer graphics 1 & 2 – practical
  - System level programming – practical
  - Deep Learning – practical
  - Operating systems – practical
  - Machine Learning 2 – design practical

German Aerospace Center (DLR), Germany *July 2022 - Aug 2022*
Internship
- participation in the research project OpenSearch@DLR
- integration of geospatial data into a graph database
- search using natural language & graph exploration
- visual exploration of geospatial research

Alturos Destinations, Austria *July 2021 - Aug 2021*
May 2020 - Sep 2020
Junior Software Engineer *Okt 2018 - Sep 2019*
- development of full-stack systems for touristic experiences
- architecture & implementation of a microservice cluster using NodeJS & GraphQL
- real-time video stitching on embedded systems
- building tools for CMS-APIs using language-level features of TypeScript

University of Klagenfurt, Austria *July 2017*
Internship
- development of VR-applications
- Unity-game development using C#

hs2n, Austria *July 2016*
Internship *July 2015*
- development of IT-Management Software using C#
- network diagnostics

PROJECTS & RESEARCH EXPERIENCE

Explainable Artificial Intelligence and Uncertainty Attribution in Industrial Process Modelling *2024*
masters thesis, in cooperation with voestalpine Stahl GmbH
- utilizing XAI and the uncertainty propagation formula to estimate input uncertainties
- derivation of a novel uncertainty attribution framework: Smoothness Constrained Attribution (SCA)
- synthetic & practical evaluation of XAI methods

Real-time high resolution image stitching on embedded systems *2020 & 2021*
bachelors thesis, in cooperation with Alturos Destinations
- building tooling for stitching at high framerates on NVIDIA embedded systems
- developing a framework for wide range of applications
- enabling easy access (Python) to hardware (GPU, cameras)

365 days of rewind *2021*
personal project
- a full-stack application recording the listening history of users
- enables an overview of the most listened music and artists
- based on NodeJS, GraphQL and VueJS

PUBLICATIONS

Input Uncertainty Attribution by Uncertainty Propagation
ICASSP 2025 (Under Review): Benedikt Kantz, Sophie Steger, Clemens Staudinger, Christoph Feilmayr, Johann Wachlmayr, Alexander Haberl, Stefan Schuster, Franz Pernkopf *2024*

Robustness of Explainable Artificial Intelligence in Industrial Process Modelling
ICML Workshop ML4LMS 2024 (Poster): Benedikt Kantz, Clemens Staudinger, Christoph Feilmayr, Johannes Wachlmayr, Alexander Haberl, Stefan Schuster, Franz Pernkopf *2024*