

VRVis Presentation Overview

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Research Center (Competence Center)

- founded in 2000 as **K_{plus}** center
- since 2010 funded by  **FFG** as a **COMET** K1-center

Mission: R&D in Visual Computing

- Visualization, Rendering, Visual Analytics
- bridge between science and industry

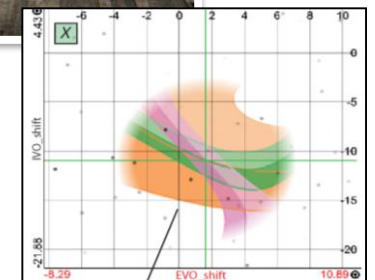
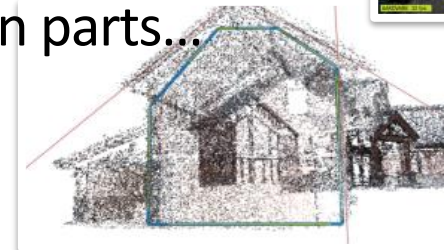
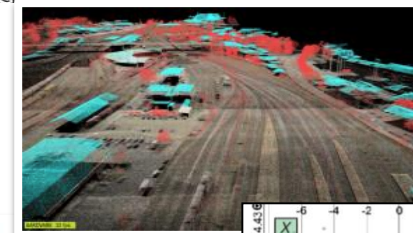
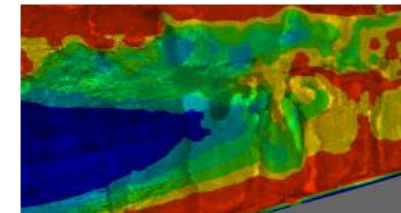
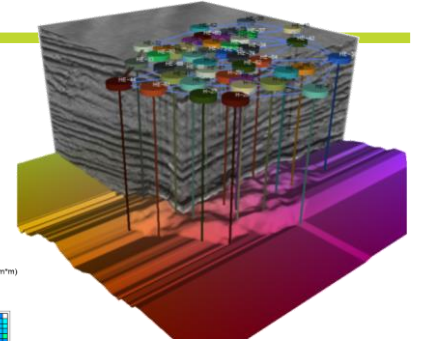
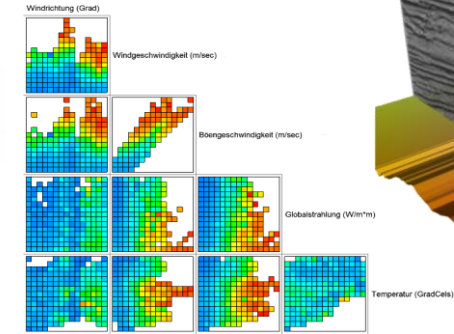
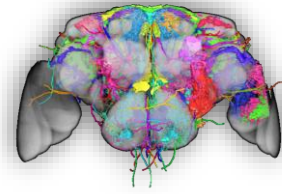
Organization: GmbH (Ltd. Co)

- in Ares Tower in Vienna
- budget ~6.4 M€ (2018), ~70 FTE employees



Visual Computing includes:

- **Computer Graphics**
graphical user interfaces, animations ...
- **Computer Vision / Pattern Recognition**
modeling of human vision, machine+deep learning...
- **Visualization**
rendering of volume data + higher dim. data...
- **Interactive Visual Analytics**
visual analysis of multi-dim. and abstract data...
- **Optical Sensors**
recording methods for visual information...
- **Modeling**
digital models of data and images...
- **Rendering**
real-time visualization, lighting simulation, hidden parts...
- **Virtual / Augmented Reality**
combination of real and virtual objects...
- **Aspects of Human-Computer-Interaction**



Begriffe: KI, Machine Learning, Deep Learning

Künstliche Intelligenz – KI, Artificial Intelligence - AI

- Wenn Maschinen Dinge tun, deren Ausführung dem Menschen Intelligenz abverlangt [Marvin Minsky, 1966]

Machine Learning

- Training der künstlichen Intelligenz
- Erkennen von Mustern, Analyse von Daten, Voraussagen über die Zukunft

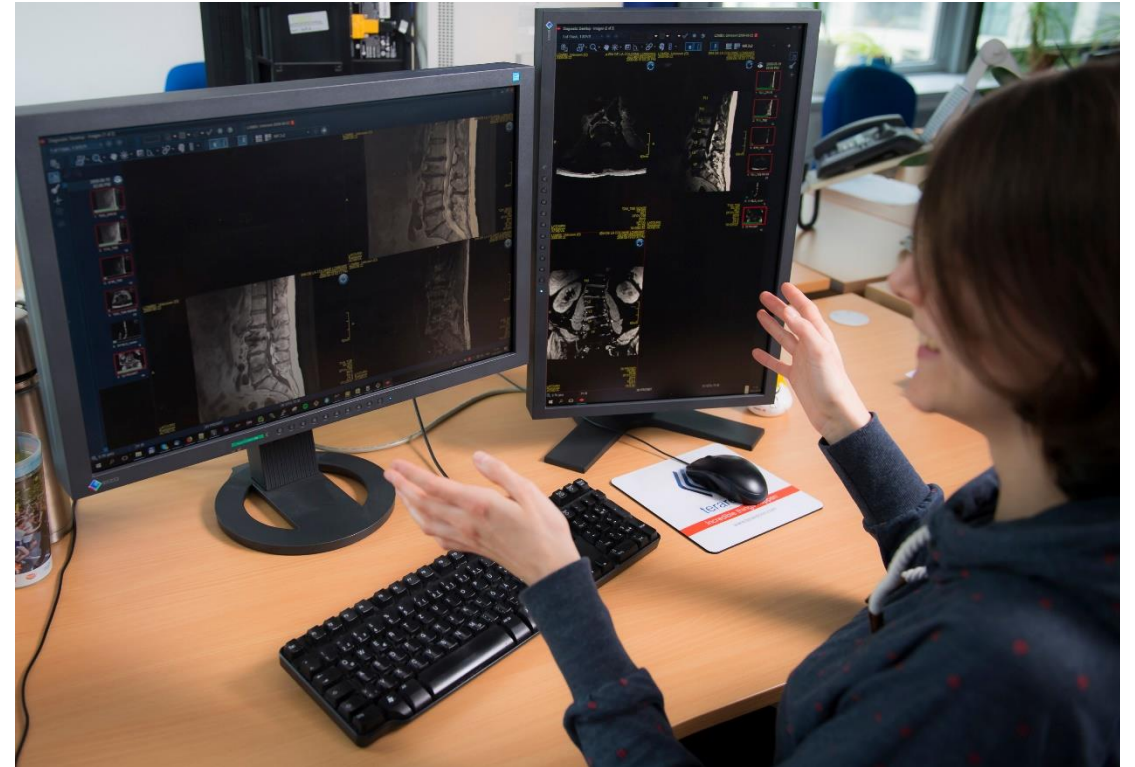
Deep Learning

- Form von Machine Learning (Teilbereich)
- Verwendung von künstlichen neuronalen Netzen

VRVis bietet: Machine Learning, Deep Learning

Einsatzgebiete

- Analyse von Bilddaten, Volumendaten
 - Beispiel Medizin: Unterstützung bei der Diagnose (siehe rechts)
- Produktionsunternehmen
 - Qualitätskontrolle
 - Automatische Klassifizierung von Defekten
 - Predictive Maintenance





Danke für Ihre Aufmerksamkeit!

Please visit us at
<http://www.VRVis.at/>

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