

Jan Hansen

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EDUCATION

UNIV. OF BRITISH COLUMBIA

MSC IN COMPUTER SCIENCE

Nov 2020 | GPA: 4.00

Thesis: *Measuring and simulating garments*

RWTH AACHEN UNIVERSITY

MSC IN APPLIED GEOSCIENCES

Sept 2013 | final Grade: A

Thesis: *Formation of a black smoker*

UNIVERSITY OF BREMEN

BSC IN MARINE GEOSCIENCES

Sept 2010 | final Grade: A

Thesis: *Diagenesis of a manganese nodule*

COURSEWORK

COMPUTER SCIENCE

Deep Learning

Computer Vision

Numerical Methods

Convex Analysis and Optimization

Digital Humans

Sensorimotor Computation

GEOLOGY

Economic Geology

Exploration Geochemistry

Environmental Geochemistry

Marine Geochemistry

Petroleum Geochemistry

Ore Systems

Structural Geology

Petrophysics

SKILLS

SOFTWARE

Programming: Python • Matlab • R • Lua

Applications: L^AT_EX • GIS • Geopsy • CAD

OS: Linux • Mac OS • Windows

HARDWARE

Geophysics: TEM • EM • ERT • Seismic •

GPR • Overwater • Televue

Geochemistry: • LA-ICP-MS • Electron

Microprobe • Gas Chromatograph •

Gamma Ray Spectrometer

Geology: • Geological Compass • GPS

LANGUAGE

German: Native speaker

English: Fluent in text and speech

EXPERIENCE

GRADUATE TEACHING ASSISTANT

| DEPT. OF COMPUTER SCIENCE,

UNIVERSITY OF BRITISH COLUMBIA

Jul - Aug 2020 | Vancouver, BC

- Assistant to Dr. Anne Condon
- Course in Intermediate Algorithm Design and Analysis
- Tasks: discussion sessions, office hours and grading assignments

GRADUATE RESEARCH ASSISTANT

| DEPT. OF COMPUTER SCIENCE,

UNIVERSITY OF BRITISH COLUMBIA

Jan 2018 - Jun 2020 | Vancouver, BC

- Advised by Dr. Dinesh K. Pai
- Design and fabrication of a unique garment tester
- Complete pipeline: garment measurement to material parameter estimation (Research funded by Vital Mechanics Research, Inc.)
- Publication: Practical Measurement and Reconstruction of Spectral Skin Reflectance, Eurographics, 2020

GEOPHYSICIST

| FRONTIER GEOSCIENCES INC.

Nov 2013 - Apr 2017 | Vancouver, BC

- Planned, executed and supervised field work
- Data processing in 2D and 3D
- Software development to streamline processing with Python and R
- Engineered a 360° 96 MP camera via parallel computing in lua and shell
- Designed and maintained the company website using HTML and MySQL

GRADUATE RESEARCH ASSISTANT

| DEPT. OF ECONOMIC GEOLOGY,

RWTH AACHEN UNIVERSITY

Nov 2012 - Mar 2013 | Aachen, Germany

- Advised by Dr. Ulrich Schwarz-Schampera and Dr. Michael Meyer
- LA-ICP-MS measurements and ore microscopy of thin and polished sections of samples from a VHMS deposit
- Researched the sulfide petrology and geochemistry of a black smoker.
- Research funded by German Geological Survey

PROJECT EXPERIENCE

DEEP GAZE: ENHANCING ACTION RECOGNITION

Summer 2019 | Class project | Deep learning class

We investigated whether eye-tracking data can be used to improve action recognition. Eye trajectory was treated as a proxy for attention in a scene to produce attention maps that are used as input to a neural network (pre-trained and modified ResNet-50 in PyTorch).

SELECTED FIELD EXPERIENCE

Sediment and pore water sampling
Transient Electromagnetics
Electrical Resistivity Tomography
Bathymetry
Televue, Gamma ray logging
EM31, ERT and magnetics
Transient Electromagnetics
Ground Penetrating Radar

3 Marine Expeditions to the Pacific
Geothermal Exploration, Harrison Mills, BC
Bedrock and permafrost mapping, Faro, YT
Tailings thickness, Flin Flon, MB
Fracture detection, Revelstoke, BC
Fault mapping, groundw. explor., Whitefish, AB
Sulphate plume detection, Williams Lake, BC
Sinkhole detection, New Westminster, BC