Joachim Janz
Astrophysicist, Data Analyst, Developer

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Profile

Independent scientist, data analyst, software developer • With an analytic approach to rigorously solve problems • Career in astronomy trained me in data analysis, obtaining data by observations and by finding and processing previously available data • Resulting in a publication record of more than 40 peer-reviewed publications with over 1100 citations • Main tool python, also C++, and several other astronomy related languages and packages • Quick learner • Passionate about image analysis and optimisation, experience in particular with optical and near-infrared • Accustomed to discuss methods and results within international teams and to peers (more than 20 talks, some invited at international conferences, many more presentations at collaboration meetings) • Science-grade documentation of technical details in written English • Experience with supervision, teaching, leadership, and as a team player • Track record of successful grant an observing time proposals documents ability to meet deadlines and convincingly communicate goals

At the universities listed in the experience section my main duty and goal was research and my publication record stands for that. Below I also list other achievements and tasks.

Experience

Finnish Centre for Astronomy with ESO (FINCA)/University of Turku — TURKU & OULU, FINLAND
FINCA Postdoctoral Fellow — *Sep '17 – Dec '20*

Designed and implemented two data processing pipelines for ESA's Euclid mission • Supervised students (bachelor to PhD level; consulting role for two PhD students still on-going) • Taught python and galaxies courses • Developed interactive python course during the COVID-19 pandemia • Created and currently hosting google-like web-interface for data of the European Marie Curie international training network SUNDIAL (`https://fds.oulu.fi`) • Was awarded title of Docent • Applied machine learning to Astronomy with a student the Netherlands • Obtained funding and supervised two summer students

Swinburne University of Technology — MELBOURNE, AUSTRALIA
Senior Postdoctoral Fellow — *Jan '14 – Dec '16*

Started new collaborations with leading experts • Held group meetings in absence of Prof. Forbes • Was award of observing time on the 10m Keck telescope • Supervised a summer student • Traveled several times to observe with Keck telescope in Hawai'i • Learned and successfully applied spectroscopy with the largest existing optical telescopes

University of Oulu — OULU, FINLAND
Postdoctoral Research Assistant — *Jan '13 – Dec '13*

Carried out N-body computer simulations • Contributions to the development of visualisation tools for the fitting of models to the light distribution of galaxies (IDL)

University of Heidelberg / Oulu — HEIDELBERG, GERMANY / OULU, FINLAND
PhD student — *Aug '09 – Jan '13*

Led the NIR imaging part of the SMAKCED project (15 international team members) • Coordinated in-parts simultaneous observations (developed mySQL database and web interface for this purpose) • Instructed peers for the NIR observations before and at the telescopes • Tutored the astrolab course and taught SDSS and SQL block courses • Obtained several grants (e.g. Daimler Benz Foundation)

SAP — WALLDORF, GERMANY
Summer job — *Summer '02*

Incorporated data set of several 1000s of data into an internal database

Degrees

University of Oulu
OULU, FINLAND

Docentship *Jul '20*
Highest possible grade • in recognition for my scientific achievements after the PhD and, in particular, my teaching abilities

Universities of Heidelberg and Oulu
HEIDELBERG, GERMANY & OULU, FINLAND

PhD in Astronomy *2009 – 2013*
Magna cum laude • double PhD degree shared between the universities of Heidelberg and Oulu • transferred new technique of two-dimensional multiple component structural image decompositions to the field of dwarf galaxies • led NIR infrared imaging campaign of the SMAKCED survey

University of Heidelberg
HEIDELBERG, GERMANY

Diplom in Physics (German equivalent to Master's degree before the Bologna process) *2004 – 2008*
Mathematics as minor subject

Vordiplom in Physics (German equivalent to Bachelor's degree before the Bologna process) *2002 – 2004*

Vordiplom in Mathematics (German equivalent to Bachelor's degree) *2002 – 2004*
Computer science as minor subject

Skills

General: Software design and implementation, with(in) a team, Data analysis, Modelling, Visualisation, macOS, Linux (Ubuntu)

Computer languages and tools: Python, C++, git, github CI/CD, also: Jupyter, gnuplot, LaTeX, SQL, OpenCV, HTML+CSS, XML, Linux administration skills: bash, Apache

Natural languages: English (*full professional proficiency*), German (*mother tongue*), Swedish (*elementary proficiency*) and Finnish (*beginner*).

Other positions of trust & Honours:

Board member and secretary of the *Finnish Astronomical Society* (http://www.ttseura.fi) (2018-2021) • Time Allocation Committee of the *European Southern Observatory, ESO* (2020) • Webmaster for the *SLUGGS* collaboration http://sluggs.swin.edu.au (2014-2017) • NASA Postdoctoral Fellowship (2013, declined) • Referee for leading peer-reviewed astronomy journals: *A&A, MNRAS, ApJ* (2010-2020) • Fellow of the *Daimler Benz foundation (2009-2011)* • Local Organising committees for conferences in Germany and Finland (2008, 2018) • Webmaster for a local choir in Heidelberg, Germany (> 5 years before 2005) • Member in follow-up groups for 2 PhD students • Co-Discoverer of Supernova SN2014ai