

Zigfried Hampel-Arias

 [zhampel.github.io](https://github.com/zhampel)

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Experience

In-Q-Tel

Data Scientist

Santa Fe, NM (remote)

09/2018 - Present

- Designed statistical testing suite for identifying data generated by GAN
- Developed [COVID diagnostic test accuracy tool](#), promoted tool via [blog post](#) & [webinar](#)
- Built and deployed API [CypherCat](#) for testing machine learning model vulnerabilities
- Led & managed three students on market analysis, identity intelligence & satellite tracking projects
- Co-authored three conference publications on secure machine learning & reinforcement learning
- Participated in internal leadership program that informed executive level recommendations
- Active open source journal reviewer: NeurIPS, Journal of Open Source Software, CSET
- Co-authored scripts and narrated public impact videos of In-Q-Tel projects [VOICES](#) & [Poseidon](#)

Insight Data Science

Artificial Intelligence Fellow

Palo Alto, CA

06/2018 - 08/2018

- Designed TensorFlow [layer](#) to embed image orientation invariance in deep learning models
- Improved image classification accuracy 10% on Planet Labs dataset with no impact on training time

Université Libre de Bruxelles

Postdoctoral Research Associate, IceCube Observatory

Brussels, Belgium

06/2017 - 10/2018

- Wrote [PyUnfold](#) statistical deconvolution package, [published](#) in Journal of Open Source Software
- Accelerated crucial simulations $\times 90$ with GPUs & designed visualization [toolkit](#)
- Supervised two graduate students through design & analysis projects

University of Wisconsin–Madison

Graduate Research Assistant, HAWC Observatory

Madison, WI

08/2010 - 04/2017

- Primary author of three scientific publications, one voted as [Editor's Suggestion](#)
- Refactored data pipeline for computing of >100 TB data set, increasing efficiency 10%
- Presented at more than a dozen international conferences & seminars, seven as invited speaker

Skills

Programming

Python (NumPy, SciPy, matplotlib, PyOpenCL, PyTorch, Plotly Dash), C/C++, Git, Subversion, distributed computing (SLURM, PBS). Familiar with TensorFlow, scikit-learn, CUDA, PyOpenGL, PHP

General

Big Data Analysis, Deconvolution Techniques, GPU Computing, Machine Learning, Data Visualization, Science Communication (Oral, Written), Working in Large Remote Teams, Self-Guided/Independent Work Environments

Education

PhD, University of Wisconsin–Madison

Physics - concentration in Particle Astrophysics, NSF Fellow

Madison, WI

08/2010 - 04/2017

BS, Rice University

Chemical Physics - concentration in Nuclear & Particle Physics

Houston, TX

09/2005 - 05/2009