

Zigfried Hampel-Arias

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

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Experience

Los Alamos National Laboratory

Scientist III

Santa Fe, NM

10/2021 - Present

- Lead to four US sponsor projects in hyperspectral imaging (AE, NeRFs, RL), space dynamics (RL)
- Advanced hyperspectral imaging ML capabilities 10% accuracy with 1/10 model parameters
- Principal investigator on two CRADA partnerships with industry partners
- Mentor to six students, one postdoc (with multiple publications as PI)

In-Q-Tel, Inc

Senior Data Scientist

Menlo Park, CA

09/2018 - 09/2021

- Project lead for GAN data detection, synthetic data for remote sensing, RF signal tracking with RL
- Lead developer for COVID-19 Diagnostic Accuracy & DeepFake Detection dashboards
- Responsible for maintaining HPC infrastructure, defined guidelines for collaborative code dev
- Supported investment team in technical due diligence process, evaluation of prospective products

Université Libre de Bruxelles

Postdoctoral Research Associate, IceCube Observatory

Brussels, Belgium

06/2017 - 10/2018

- Wrote & co-released [PyUnfold](#) statistical deconvolution package in PyPI
- Developed GPU enhanced Markov Chain Monte Carlo statistical sampling routine

University of Wisconsin–Madison

Graduate Research Assistant, HAWC Observatory

Madison, WI

08/2010 - 04/2017

- Improved signal to noise ratio $\times 2$ with custom image analysis routines
- Accelerated crucial simulations $\times 90$ with GPUs & designed visualization [toolkit](#)
- Documented research projects to 100-member collaboration via custom built website
- 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, C/C++, Git, Subversion, distributed computing (SLURM, PBS), PyTorch, TensorFlow, CUDA, PyOpenCL, PHP

General

Big Data Analysis, Deconvolution Techniques, GPU Computing, Machine Learning, Data Viz, Science Communication, Team & Self-Guided Work Environments

Languages

English (native), Spanish (native), French (intermediate), Greek (basic)

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