Zigfried Hampel-Arias

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Experience

Lab41   Menlo Park, CA
Data Scientist   09/2018 - Present

- Designed statistical test for identifying data generated by GAN
- Built and deployed secure machine learning API CypherCat for testing model vulnerabilities
- Sponsored Stanford Hacking for Defense DeepFakes team dedicated to identifying misinformation

Insight Data Science   Palo Alto, CA
Artificial Intelligence Fellow   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   Brussels, Belgium
Postdoctoral Research Associate, IceCube Observatory   06/2017 - 10/2018

- Wrote & co-released PyUnfold statistical deconvolution package in PyPI for
  use outside of particle physics, published in open-source software journal *JOSS*
- Developed GPU enhanced Markov Chain Monte Carlo statistical sampling routine

University of Wisconsin–Madison   Madison, WI
Graduate Research Assistant, HAWC Observatory   08/2010 - 04/2017

- Improved signal to noise ratio ×2 with custom image analysis routines
- Accelerated crucial simulations ×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 (NumPy, SciPy, matplotlib, PyOpenCL), C/C++, Git, Subversion, distributed computing (SLURM, PBS). Familiar with Keras, TensorFlow, scikit-learn, CUDA, PyOpenGL, PHP, SQL
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
Languages	English (native), Spanish (native), French (intermediate), Greek (basic)

Education

PhD, University of Wisconsin–Madison   Madison, WI
Physics - concentration in Particle Astrophysics, NSF Fellow   08/2010 - 04/2017

BS, Rice University   Houston, TX
Chemical Physics - concentration in Nuclear & Particle Physics   09/2005 - 05/2009