Matthew C. Feickert

Curriculum Vitae, March 2024

CONTACT INFORMATION

University of Wisconsin-Madison
447 Lorch St.
Madison, WI 53706, USA

matthew.feickert@cern.ch
matthewfeickert.com
0000-0003-4124-7862

RESEARCH INTERESTS

Searches for new physics beyond the Standard Model including exotic extensions and supersymmetry. Measurements of HH production and searches for Higgs + scalar production. Applications of data science and machine learning to physics. Building and advancement of open source data analysis tools for the physics community. Analysis preservation and analysis reinterpretation techniques and methodology. FAIR publications of physics analysis data products.

EDUCATION

Ph.D., Physics August 2014 to August 2019
Southern Methodist University, Dallas, TX, USA

Dissertation Advisor: Prof. Stephen J. Sekula

Dissertation: *A Search for Boosted Low Mass Resonances Decaying to the $b\bar{b}$ Final State and Produced in Association with a Jet at $\sqrt{s} = 13$ TeV with the ATLAS Detector*

M.S., Physics August 2014 to December 2016
Southern Methodist University, Dallas, TX, USA

M.A., Physics August 2012 to December 2013
University of Virginia, Charlottesville, VA, USA

B.S., Engineering Physics; Mathematics Minor August 2007 to May 2012
University of Illinois at Urbana-Champaign, Urbana, IL, USA

RESEARCH EXPERIENCE

Postdoctoral Research Associate June 2022 to present
American Family Insurance Data Science Institute, Institute for Research and Innovation in Software for High Energy Physics (IRIS-HEP), ATLAS Experiment
University of Wisconsin-Madison, Madison, WI, USA
Advising Principal Investigator: Kyle Cranmer, Data Science Institute

Data science applications for experimental high energy physics, data physicist

IRIS-HEP Executive Board member

IRIS-HEP Analysis Systems Area Lead

Large model parameter scan of pMSSM analyses with the ATLAS detector

Search for resonant HH production with the ATLAS detector

Analysis preservation, reuse, and reinterpretation for the ATLAS collaboration

Postdoctoral Research Associate August 2019 to June 2022
ATLAS Experiment, Institute for Research and Innovation in Software for High Energy Physics (IRIS-HEP)
University of Illinois at Urbana-Champaign, Urbana, IL, USA
Advising Principal Investigator: Mark S. Neubauer, Department of Physics

Search for resonant HH production with the ATLAS detector

Analysis preservation, reuse, and reinterpretation for the ATLAS collaboration

Analysis Systems for IRIS-HEP

Ph.D. Candidate January 2015 to August 2019
High Energy Physics Group
Southern Methodist University, Dallas, TX, USA
Advising Professor: Stephen J. Sekula, Department of Physics

Search for low mass dark matter mediators at high p_T in the $Z' \to b\bar{b}$ + ISR jet decay channel

Study of the Higgs cross-section at high p_T in the $H \to b\bar{b}$ + ISR jet decay channel

Graduate Research Assistant August 2012 to December 2013
High Energy Physics Group
University of Virginia, Charlottesville, VA, USA
Advising Professor: Bob Hirosky, Department of Physics

Analysis software development for single photon detection with gallium indium arsenide detectors

Undergraduate Research Assistant June 2009 to August 2012
High Energy Physics Group
University of Illinois at Urbana-Champaign, Urbana, IL, USA
Advising Professor: Mark S. Neubauer, Department of Physics

ATLAS hardware tracker for trigger upgrade (FTK)

Search for Higgs Boson using the $H \to WW \to \ell\nu qq$ decay channel

URA Visiting Scholar at Fermilab May 2010 to August 2010
CDF Experiment; Higgs to WW Group
Fermi National Accelerator Laboratory
Fermilab Sponsor: Eric James, Fermi National Accelerator Laboratory

A search for WZ and WW resonances (including Higgs) in the $\ell\nu qq$ final state

Selected Papers, Notes, and Publications

17. Marco Donadoni *et al.*, *Scalable ATLAS pMSSM computational workflows using containerised REANA reusable analysis platform*. Mar, 2024. arXiv:2403.03494
16. Matthew Feickert, Lukas Heinrich, Malin Horstmann, *Bayesian Methodologies with pyhf*. Sep, 2023. arXiv:2309.17005
15. Matthew Feickert, Daniel S. Katz, Mark S. Neubauer, Elizabeth Sexton-Kennedy, Graeme A. Stewart, *Software Citation in HEP: Current State and Recommendations for the Future*. Sep, 2023. arXiv:2309.14571
14. ATLAS Collaboration, *Measurements of multijet event isotropies using optimal transport with the ATLAS detector*. *JHEP* 10 (2023) 060. May, 2023. DOI: 10.1007/JHEP10(2023)060 arXiv:2305.16930
13. Brian Bockelman, Peter Elmer, Gordon Watts *et al.*, *IRIS-HEP Strategic Plan for the Next Phase of Software Upgrades for HL-LHC Physics*. Feb, 2023. arXiv:2302.01317
12. Stephen Bailey, Kyle Cranmer, Matthew Feickert, Rob Fine, Sabine Kraml, Clemens Lange, *Reinterpretation and Long-Term Preservation of Data and Code*. Snowmass 2021 Computational Frontier CompF7 topical group report. Sep, 2022. arXiv:2209.08054
11. Gabriele Benelli *et al.*, *Data Science and Machine Learning in Education*. Contribution to 2022 Snowmass Summer Study. Jul, 2022. arXiv:2207.09060
10. Stephen Bailey *et al.*, *Data and Analysis Preservation, Recasting, and Reinterpretation*. Contribution to 2022 Snowmass Summer Study. Mar, 2022. arXiv:2203.10057
9. Kyle Cranmer *et al.*, *Publishing statistical models: Getting the most out of particle physics experiments*. *SciPost Phys.* 12, 037 (2022). Sep, 2021. DOI: 10.21468/SciPostPhys.12.1.037 arXiv:2109.04981

8. ATLAS Collaboration, *Configuration and performance of the ATLAS b-jet triggers in Run 2*. *Eur. Phys. J. C* **81**, 1087 (2021). Jun, 2021. DOI: 10.1140/epjc/s10052-021-09775-5 arXiv:2106.03584
7. Lukas Heinrich, Matthew Feickert, Giordon Stark, Kyle Cranmer, *pyhf: pure-Python implementation of HistFactory statistical models*. Journal of Open Source Software, 6(58), 2823, Feb, 2021. DOI: 10.21105/joss.02823
6. Matthew Feickert, Benjamin Nachman, *A Living Review of Machine Learning for Particle Physics*. Feb, 2021. arXiv:2102.02770
5. Daniel S. Katz *et al.*, *Software Sustainability & High Energy Physics*. Oct, 2020, DOI: 10.5281/zenodo.4082137
4. LHC Reinterpretation Forum Collaboration, *Reinterpretation of LHC Results for New Physics: Status and Recommendations after Run 2*. Mar, 2020. DOI: 10.21468/SciPostPhys.9.2.022
3. ATLAS Collaboration, *Reproducing searches for new physics with the ATLAS experiment through publication of full statistical likelihoods*, Aug, 2019. CDS: ATL-PHYS-PUB-2019-029.
2. ATLAS Collaboration, *Search for boosted resonances decaying to two b-quarks and produced in association with a jet at $\sqrt{s}$ = 13 TeV with the ATLAS detector*, Nov, 2018. CDS: ATLAS-CONF-2018-052.
1. K. Albertsson *et al.*, *Machine Learning in High Energy Physics Community White Paper*, 2018, arXiv:1807.02876.

Selected Proceedings and Reports

7. Matthew Feickert, Lukas Heinrich, and Giordon Stark, *pyhf: a pure-Python statistical fitting library with tensors and automatic differentiation*, *Proceedings of 41st International Conference on High Energy physics — PoS(ICHEP 2022)* **414** (2022) 245, Nov, 2022. DOI: 10.22323/1.414.0245 arXiv:2211.15838.
6. Matthew Feickert, Mihir Katare, Mark Neubauer, and Avik Roy, *Deep Learning for the Matrix Element Method*, *Proceedings of 41st International Conference on High Energy physics — PoS(ICHEP 2022)* **414** (2022) 246, Nov, 2022. DOI: 10.22323/1.414.0246 arXiv:2211.11910.
5. S. Malik *et al.*, *Software Training in HEP*, *Computing and Software for Big Science* 5 (2021) 22, Oct, 2021. DOI: 10.1007/s41781-021-00069-9 arXiv:2103.00659.
4. M. Feickert, L. Heinrich, G. Stark, and B. Galewsky, *Distributed statistical inference with pyhf enabled through funcX*, EPJ Web Conf. **251** (2021) 02070, Mar, 2021. DOI: 10.1051/epjconf/202125102070 arXiv:2103.02182.
3. Matthew Feickert, Lukas Heinrich, and Giordon Stark, *Likelihood preservation and statistical reproduction of searches for new physics*. EPJ Web Conf. **245** (2020) 0617, Nov, 2020. DOI: 10.1051/epjconf/202024506017
2. E. Rodrigues *et al.*, *The Scikit HEP Project — overview and prospects*. EPJ Web Conf. **245** (2020) 0628, Jul, 2020. DOI: 10.1051/epjconf/202024506028 arXiv:2007.03577
1. Matthew Feickert and John Alison, *Performance of the ATLAS **b**-jet trigger in 2017 data at high pile-up*, Nov, 2017. CDS: ATL-COM-DAQ-2017-182.

Magazine and online articles

1. Matthew Feickert, Extending ATLAS Physics Reach with Analysis Reuse Technology, CERN EP Newsletter, March, 2024.

Selected Talks and Presentations

36. "Towards Differentiable Physics Analysis at Scale at the LHC and Beyond", SNOLAB Seminar Series, Online, September 18, 2023.
35. "Distributing your Science: Turning analyses into scientific tools", ORIGINS Data Science Lab Forum Seminar Series, Online, September 8, 2023.
34. "Software Citation in HEP: Current State and Recommendations for the Future", 26th International Conference on Computing in High Energy and Nuclear Physics (CHEP 2023), Norfolk, Virginia, USA, May 8, 2023.
33. "IRIS-HEP Analysis Grand Challenge at US ATLAS Analysis Facilities", IRIS-HEP Analysis Grand Challenge workshop 2023, Madison, Wisconsin, USA, May 4, 2023.
32. "Software Citation Tools, Technologies, and Best Practices", Software Citation and Recognition in HEP Workshop, Online, November 23, 2022.
31. "ATLAS RECAST: Reflections from Run 2, looking forward to Run 3", ATLAS Exotics Workshop 2022, Online, September 29, 2022.
30. "Analysis Systems Updates", IRIS-HEP Steering Board Meeting #15, Online, September 13, 2022.
29. "pyhf and analysis optimization with automatic differentiation", ATLAS HDBS Workshop 2022, Uppsala, Sweden, September 6, 2022.
28. "Feedback from Data and Analysis Preservation, Recasting, and Reinterpretation white paper authors", Seattle Snowmass Summer Meeting, Online, July 21, 2022.
27. "pyhf: a pure-Python statistical fitting library with tensors and automatic differentiation", International Conference on High Energy Physics (ICHEP) 2022, Bologna, Italy, July 8, 2022.
26. "Modern Python analysis ecosystem for High Energy Physics", The Python Exchange for DOE Employees (DOEPy), Online, June 29, 2022.
25. "Analysis user experience with Python HEP data science tools in ATLAS", IRIS-HEP AGC Tools 2022 Workshop, Online, April 26, 2022.
24. "Statistical inference: pyhf and cabinetry", IRIS-HEP AGC Tools 2022 Workshop, Online, April 25, 2022.
23. "Distributed statistical inference with pyhf powered by funcX", 20th Python in Science Conference (SciPy 2021), Online, July 15, 2021.
22. "Distributed statistical inference with pyhf", PyHEP 2021 Workshop, Online, July 6, 2021.
21. "Distributed statistical inference with pyhf enabled through funcX", 25th International Conference on Computing in High-Energy and Nuclear Physics (vCHEP 2021), Online, May 20, 2021.
20. "Steps Towards Differentiable and Scalable Physics Analyses at the LHC", Argonne Lunch Seminar, Online, December 8, 2020.
19. "Modern Tools for Reusable Publications and Data Products", LPSC Grenoble Colloquium, Online, November 26, 2020.
18. "`pyhf`: pure-Python implementation of HistFactory with tensors and automatic differentiation", Tools for High Energy Physics and Cosmology 2020, Online, November 3, 2020.
17. "Towards Fitting as a Service with `pyhf`", IRIS-HEP Future Analysis Systems and Facilities Blueprint Workshop, Online, October 26, 2020.
16. "Likelihood Publication and Preservation", Snowmass 2021 Computational Frontier Workshop, Online, August 10, 2020.
15. "`pyhf`: a pure Python statistical fitting library with tensors and autograd", 19th Python in Science Conference (SciPy 2020), Online, July 7, 2020.
14. "Search for new heavy resonances in leptonic or hadronic final states with the ATLAS detector", Lake Louise Winter Institute 2020, Chateau Lake Louise, Alberta, Canada, February 10, 2020.

13. "Likelihood preservation and statistical reproduction of searches for new physics", 24th International Conference on Computing in High-Energy and Nuclear Physics (CHEP 2019), Adelaide, Australia, November 7, 2019.
12. "`pyhf`: a pure Python implementation of HistFactory with tensors and autograd", 24th International Conference on Computing in High-Energy and Nuclear Physics (CHEP 2019) Poster Session, Adelaide, Australia, November 5, 2019.
11. "`pyhf`: a pure Python implementation of HistFactory", PyHEP 2019 Workshop, Abingdon, United Kingdom, October 18, 2019.
10. "Containers for Machine Learning in High Energy Physics", 3rd IML Machine Learning Workshop, CERN, Geneva, Switzerland, April 16, 2019.
9. "Searches for boosted low mass resonances decaying to b-quarks with the ATLAS detector", Higgs Couplings, Tokyo, Japan, November 29, 2018.
8. "b-tagging in ATLAS", Machine Learning for Jet Physics Workshop, Fermilab, Batavia, Illinois, USA, November 14, 2018.
7. "`pyhf`: a pure Python implementation of HistFactory with autograd", DIANA/HEP Meeting, CERN, Geneva, Switzerland, October 29, 2018.
6. "`pyhf`: a pure Python implementation of HistFactory with autograd", 3rd ATLAS Machine Learning Workshop, CERN, Geneva, Switzerland, October 26, 2018.
5. "Performance of real-time flavour tagging in ATLAS during Run-II", 133rd LHC Experiments Committee (LHCC) Meeting Poster Session, CERN, Geneva, Switzerland, February 28, 2018.
4. "Validation of the $VH\left(\rightarrow b\bar{b}\right)$ Analysis Framework", ATLAS Joint Flavour Tagging and $H \rightarrow b\bar{b}$ Workshop 2017, Stony Brook University, Stony Brook, NY, USA, September 8, 2017.
3. "ATLAS Trigger Menus in 2017", ATLAS Joint Flavour Tagging and $H \rightarrow b\bar{b}$ Workshop 2017, Stony Brook University, Stony Brook, NY, USA, September 7, 2017.
2. "Study of c-jet Tagging in the $H \rightarrow WW \rightarrow \ell\nu qq$ Decay Channel at the ATLAS Detector", 5th Annual Campus Undergraduate Research Symposium, University of Illinois at Urbana-Champaign, Urbana, IL, USA, April 11, 2012.
1. "Study of c-jet Tagging in the $H \rightarrow WW \rightarrow \ell\nu qq$ Decay Channel at the ATLAS Detector", 11th Annual Undergraduate Research Symposium, Department of Physics, University of Illinois at Urbana-Champaign, Urbana, IL, USA, January 27, 2012.

Successful Grant Proposals

pyhf Users and Developers Workshop 2023
NumFOCUS Small Development Grants - Round 2, 2023
Award start date: October 11th, 2023
Award amount: 10,000 USD supporting the proposal work for up to 1 year

Contributions to Successful Grant Proposals

Institute for Research and Innovation in Software for High Energy Physics (IRIS-HEP)
National Science Foundation award 2323298
Award start date: September 6th, 2023
Award amount: 25,000,000 USD supporting the institute for 5 years

An Open Source Program Office at the University of Wisconsin-Madison
Funded by the Alfred P. Sloan Foundation
Award start date: July 1st, 2023
Award amount: 698,247 USD supporting the program office for 2 years

Professional Activities and Service

National Science Foundation 2024
Served on NSF proposal review panel

International Scientific Computing with Python (SciPy) Conference July 2024
Program Committee

Division of Particles and Fields Executive Committee January 2024 to April 2024
Formation Task Force for the Coordinating Panel for Software and Computing

Frontiers in Big Data - Big Data and AI in High Energy Physics August 2023 to present
Review editor

pyhf Users and Developers Workshop 2023 December 2023
Organizing committee

PyHEP 2023 Workshop October 2023
Organizing committee

PyHEP.dev 2023 Workshop July 2023
Organizing committee

International Scientific Computing with Python (SciPy) Conference July 2023
Co-chair for specialized track on astronomy, astrophysics, and physics

ATLAS Analysis Model Group March 2023 to present
Analysis Workflow Containerization Activity co-coordinator

Journal of Open Source Software March 2023 to present
Associate editor for Physics and Engineering; Data Science, Artificial Intelligence, and Machine Learning

Forum on the Interpretation of the LHC Results for BSM studies January 2023 to present
Steering committee

HEP Software Foundation PyHEP Working Group January 2023 to present
Convener

LHC Reinterpretation Forum 2022 Workshop December 2022
Organizing committee

Software Citation and Recognition in HEP Workshop November 2022
Organizing committee

PyHEP 2022 Workshop September 2022
Organizing committee

International Scientific Computing with Python (SciPy) Conference July 2022
Co-chair for mini-symposium on physics and astronomy

IRIS-HEP Executive Board July 2022 to present
Analysis Systems Area Lead

ATLAS Exotics, SUSY, and HDBS Analysis Working Groups August 2021 to present
Analysis Preservation Contact

International Scientific Computing with Python (SciPy) Conference July 2021
Co-chair for mini-symposium on physics and astronomy

PyHEP 2021 Workshop July 2021
Organizing committee

Journal of Open Source Software April 2021 to present
Reviewer

Python Software Foundation March 2021 to present
Contributing Member

ATLAS Jet and Etmiss Combined Performance Group December 2020 to April 2023
Liaison to the ATLAS Machine Learning Forum

ATLAS Higgs and Diboson Workshop 2020 September 2020
Machine learning session co-chair

ATLAS Di-Higgs Combination Contact April 2020 to June 2022
Contact for $b\bar{b}VV^*$ analyses

PyHEP 2020 Workshop July 2020
Organizing committee

Washington, D.C. High Energy Physics Advocacy Trip March 2019, 2020
US LHC Users Association Young Physicists Representative

Scikit-HEP project November 2019 to present
Administrator team

ATLAS Machine Learning Forum February 2019 to 2021
Documentation Coordinator

High Energy Physics Machine Learning Resources Repository April 2017 to July 2020
Creator and Maintainer

Southern Methodist University Graduate Student Assembly August 2015 to August 2016
Physics Department Representative

Society of Physics Students UIUC Chapter 2009 to 2012
President (May 2011 to May 2012)

Educational Service to the Field

Computational HEP Traineeship Summer School July 2023
Topical lecturer

US-ATLAS Computing Bootcamp 2021 October 2021
Bootcamp co-organizer and instructor

US-ATLAS Computing Bootcamp 2020 August 2020
Bootcamp co-organizer and instructor

US-ATLAS/FIRST-HEP Computing Bootcamp August 2019
Bootcamp course instructor and course content creator

Software Developed and Maintained

pyhf — core developer and maintainer
Python implementation of the `HistFactory` model spec with auto-differentiable graph backends
DOI: 10.5281/zenodo.1169739

recast-atlas — maintainer
Python library and CLI tools to facilitate integration of ATLAS analyses into RECAST
DOI: 10.5281/zenodo.5854896

pylhe — maintainer
Lightweight Python interface to read Les Houches Event (LHE) files
DOI: 10.5281/zenodo.1217031

lwtnn — maintainer
Lightweight Trained Neural Network in C++
DOI: 10.5281/zenodo.5082190

pandamonium — maintainer
Command line library to parse the PanDA web API
DOI: 10.5281/zenodo.4019463

Honors and Awards

Lightner-Sams Graduate Fellowship	2018
DIANA HEP Fellow *Study of data flow graph frameworks for statistical models in particle physics* Award for 4,650 USD supporting 12 weeks of research	2017
Outstanding Graduate Physics Teaching Assistant Award	2015
National Science Foundation Graduate Research Fellowship Program Honorable Mention	2013
Robert E. Hetrick Outstanding Senior Thesis Award	2012
University of Illinois College of Engineering Dean's List for academic excellence	2011
UIUC Undergraduate Research Colloquy Best Poster Award, 2nd Place	2011
Illinois General Assembly Legislative Scholarship	2011
Universities Research Association Visiting Scholar at Fermilab	2010
International Programs in Engineering International Engineering Fellowship	2009
University of Illinois College of Engineering Calvin Barnes Niccolls Memorial Scholarship	2007-2012

Outreach

Scientist pen pal for Letters to a Pre-Scientist program	2017 through 2019
Dallas Regional Science and Engineering Fair	
Physics Judge	February 27th, 2016
Physics Judge	February 21st, 2015
University of Texas at Austin Geophysical Society LaTeX workshop lecturer	March 12th, 2015
SMU Society of Physics Students guest lecturer for LaTeX workshop	November 6th, 2014
iFEX Summer Scholars guest lecturer	July 17th, 2012
Student mentor to undergraduate physics majors	September 2011 to May 2012
Discover Engineering demonstrator	July 27th, 2011
Illini Summer Physics Academy guest lecturer	June 28th, 2011
EnLiST Physics Summer Institute teaching assistant	2011

Media Appearances

Guest on PythonBytes episode 211	December 7th, 2020
Panelist on Talk Python To Me episode 144	December 26th, 2017

Teaching Experience

Graduate Teaching Assistant
Southern Methodist University, Department of Physics

PHYS 3305 - Introduction to Modern Physics	Spring 2016
PHYS 1307 - General Physics I	Spring 2016, Fall 2014
PHYS 1303 - Introductory Mechanics	Fall 2015, Fall 2014
PHYS 1304 - Introductory Electricity and Magnetism	Spring 2015, Fall 2014

Graduate Teaching Assistant
University of Virginia, Department of Physics

PHYS 2630 - Elementary Laboratory I	Fall 2013
PHYS 1620 - Introductory Physics II	Spring 2013
PHYS 2030 - Basic Physics Laboratory I	Fall 2012

Undergraduate Teaching Assistant
University of Illinois at Urbana-Champaign, Department of Physics

PHYS 211 - University Physics: Mechanics — Spring 2012, Fall 2011

Technical Skills

Languages: Python, C++, Bash, SQL
Operating Systems and Environments: Linux (Scientific Linux, Ubuntu, Cent OS), Unix
Software and Technologies: Git, Docker, CMake, Continuous Integration/Delivery, LaTeX 2$_\varepsilon$
Libraries, Frameworks, Data Formats:

HEP specific: ROOT, MadGraph5_aMC@NLO, Pythia8, Delphes

Data formats: ROOT, HDF5, Apache Arrow, JSON

Data analysis: NumPy, SciPy, Matplotlib, Pandas, h5py, PyArrow

Scikit-HEP stack: Awkward, uproot, boost-histogram, hist, mplhep, pyhf, cabinetry, pylhe

Machine learning: PyTorch, JAX, scikit-learn

Students Mentored

Sambridhi Deo — July 2023 to September 2023

Projects advised on: REANA workflow for Dark Matter Searches

Position during mentorship: IRIS-HEP Fellow

Current position: University student in computer science at Fisk University

Andrii Povsten — July 2023 to September 2023

Projects advised on: A Snakemake backend for RECAST workflows

Position during mentorship: IRIS-HEP Fellow

Current position: University student in physics at Taras Shevchenko National University of Kyiv and University of Leipzig

Kyrylo Meliushko — July 2023 to September 2023

Projects advised on: Rucio-S3-compatible access interface for analysis facilities: Add S3 compatible access interface to Rucio

Position during mentorship: IRIS-HEP Fellow

Current position: University student in computer science and network technologies at Taras Shevchenko National University of Kyiv and Johannes Kepler University Linz

Malin Horstmann — January 2023 to September 2023

Projects advised on: Bayesian Methodologies with pyhf

Position during mentorship: Physics Ph.D. candidate at Technical University of Munich with IRIS-HEP travel award

Current position: Physics Ph.D. candidate at Technical University of Munich

Max Battle — December 2022 to Present

Projects advised on: Open Science Developer Internship

Position during mentorship: Open Science Developer Intern at University of Wisconsin-Madison Data Science Institute

Current position: Open Science Developer Intern at University of Wisconsin-Madison Data Science Institute

Zubair Bhatti — October 2022 to Present

Projects advised on: Ph.D. dissertation research on ATLAS experiment

Position during mentorship: Physics Ph.D. candidate at New York University

Current position: Physics Ph.D. candidate at New York University

Philip Templeman May 2022 to August 2022

Projects advised on: Prototyping an Analysis Workflow for MINERvA

Position during mentorship: IRIS-HEP Fellow

Current position: University student in physics and mathematics at University of Notre Dame

Peter Ridolfi May 2022 to August 2022

Projects advised on: Designing and implementing a converting tool for statistical models between `pyhf` and CMS combine

Position during mentorship: IRIS-HEP Fellow

Current position: University student in applied mathematics and computer science at University of Pittsburgh

Mihir Katare May 2021 to August 2021

Projects advised on: Deep Learning Implementations for Sustainable Matrix Element Method Calculations

Position during mentorship: IRIS-HEP Fellow

Current position: Software Engineer at Amazon

Bo Zheng June 2020 to August 2020

Projects advised on: `pyhf` Hardware Acceleration Benchmarking with GPUs and TPUs

Position during mentorship: IRIS-HEP Fellow

Current position: Software Engineer at Google

JianCong Zeng August 2019 to May 2022

Projects advised on: Ph.D. dissertation work on vector boson scattering studies in the $\ell\nu qq$ channel

Position during mentorship: Physics Ph.D. candidate at University of Illinois at Urbana-Champaign

Current position: Physics Ph.D. candidate at University of Illinois at Urbana-Champaign

Dewen Zhong August 2019 to May 2022

Projects advised on: Ph.D. dissertation work on di-Higgs production in the $\ell\nu qq$ boosted channel

Position during mentorship: Physics Ph.D. candidate at University of Illinois at Urbana-Champaign

Current position: Physics Ph.D. candidate at University of Illinois at Urbana-Champaign

Nicole Hartman August 2014 to May 2016

Projects advised on: Use of energy correlation functions to improve selection of resolved $H \to b\bar{b}$

Position during mentorship: University student in physics, researcher in Sekula Research Group at SMU

Noteable awards: National Science Foundation's Graduate Research Fellowship

Current position: Postdoctoral researcher in Data Science for Phyiscs at Technical University Munich