

# Bijan HANEY

New York City, NY

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## SKILLS

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PROGRAMMING: *Proficient in:* Python, C++, bash, SQL  
*Experience with:* Javascript

SOFTWARE/TOOLS: *Proficient in:* Linux/Unix, PyTorch, Detectron2, aws, git, CI, pandas, scikit-learn, numpy, scipy  
*Experience with:* Tensorflow, jekyll, flask, gunicorn, nginx, L<sup>A</sup>T<sub>E</sub>X

OTHER: Computer vision, NLP, machine learning/AI, hypothesis testing, statistics, regression analysis, experimental design, web scraping, blockchain, particle physics

## EXPERIENCE

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APR. 2019 - PRESENT | **Senior AI Research Engineer** - Augustus Intelligence, *New York City, NY*

- Developed, trained, and tested object detection, segmentation, and classification deep-learning models in PyTorch to label retail products and identify people for real-time consumer analytics. Deployed in more than a thousand retail locations across the country.
- Developed fine-grain, few-shot computer vision models that could learn novel categories with 1 to 5 examples to reduce the time and cost of gathering datasets. Workshop paper presented at CVPR 2020. [arxiv.org/abs/2005.11450](https://arxiv.org/abs/2005.11450)
- Built and maintained GPU deep learning workstations for the AI team.

AUG. 2018 - APR. 2019 | **Co-Founder & Tech Lead @ Endjinn** - ConsenSys, *Brooklyn, NY*

- Led the development of back-office role automation agents at Endjinn, the AI group within the Ethereum venture studio Consensus.
- Created a medical insurance claims agent that automatically read forms with OCR, processed the text, caught errors, and adjusted claims.

JAN. 2017 - JAN. 2018 | **Data Acquisition Operations Coordinator** - CERN, *Geneva, Switzerland*

- Led a team of five physicists in the on-line monitoring and repair of the TRT, a particle tracker and electron identification subdetector in the ATLAS detector.
- Migrated the codebase to git and CMake and implemented CI in GitLab for automatic testing and deployment. Developed a documentation system for the subdetector on the web with Jekyll.
- Developed a C++ program to access an SQL database of weekly detector threshold readings and automatically detect and fix the threshold errors due to radiation damage.

AUG. 2013 - NOV. 2018 | **Graduate Research Assistant** - University of Pennsylvania, *Philadelphia, PA*

- Formulated and optimized a filter in C++ to reduce the stream of data from the Large Hadron Collider by 99.97% while still saving 99.5% of the desired signal for the analysis.
- Implemented maximum likelihood methods with hundreds of systematic uncertainties to measure how often a Higgs boson was produced in the LHC, published in [Physics Review Letters](#).
- Helped develop a C++/Python end-to-end framework (30k+ lines) for cleaning, transforming, analyzing, and visualizing terabytes of data and Monte Carlo simulations using distributed HPC.

## PROJECTS/OTHER

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JAN. 2018 - MAY 2018 | **1517 fellow (arXain)**: Co-founded and developed an open-access, decentralized scientific journal on the Ethereum blockchain to disrupt the scientific publishing industry. Won **Best Blockchain Hack** and **Most Promising Hack** at *PennApps XVII* Hackathon in Philadelphia. Used the Ethereum blockchain as the ledger and IPFS as the distributed server. [www.devpost.com/software/arxain](http://www.devpost.com/software/arxain)

## EDUCATION

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AUG. 2013 - NOV. 2018 | Ph.D in PHYSICS, (M.S. in 2015)  
**University of Pennsylvania**, Philadelphia, PA

SEP. 2008 - MAY 2012 | B.S. in PHYSICS (INTENSIVE),  
**Yale University**, New Haven, CT