Devanshu Kiran Panchal, Ph.D.

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INTRODUCTION

- **7+ years** of experience as **Data Scientist** & **Detector Coordinator** at **CERN** to operate a **large-scale detector** and **analyze petabyte-scale data sets** of particle collisions.
- Strong knowledge in the fields of **data science**, **statistical data analysis**, **mathematical modeling**, and **machine learning**.
- Proficient in **mining data from multiple sources, developing algorithms, and performing rigorous statistical analysis to extract trends and other insights from data.**
- Proven track record of **synthesizing complex data sources into clear and insightful presentations with an emphasis on the story.**
- **Strong leadership skills** and extensive experience working in **multidisciplinary team environments**.

TECHNICAL SKILLS

Programming Languages	Python | C++ | R | SQL | MATLAB
Frameworks & Libraries	TensorFlow | Keras | scikit-learn | SciPy | NumPy | Pandas | Geant
Software Development	Agile | Git, Version Control | Shell Scripting | Distributed Computing
Applications & Tools	Excel | Docker | Kubernetes | HTCondor
Operating Systems	Linux | MacOS | Windows

PROFESSIONAL EXPERIENCE

Associate Research Scientist | **University of Texas at Austin** July 2023 – Present

- Designed and built a robotic framework to automate testing and ensure consistent data collection.
- Developed a comprehensive data pipeline to acquire data from over 80,000 electronic chips.
- Implemented data quality metrics to assess the integrity and reliability of collected data.
- Developed QA/QC protocols to maintain >90% yield of tested chips.
- Designed and managed a cloud-based database for archiving chip-quality information, implemented protocols for long-term storage and ensured scalability and accessibility.

Graduate Researcher | **University of Texas at Austin** August 2017 – May 2023

- Analyzed petabyte-scale data sets coming from particle collisions at CERN.
- Generated Monte Carlo simulations of particle collisions, interaction, and detection.
- Performed statistical analysis to extract rare signals from significant background noise in petabyte-scale data, focusing on identifying one-in-a-million events.
- Developed a Deep Neural Network (DNN) to enhance particle detection capabilities, targeting the identification of rare and exotic sub-atomic particles.
- Acted as a detector coordinator, overseeing the operations of a large-scale detector to ensure optimal performance in a time-critical environment.

EDUCATION

Ph.D. in Physics August 2017 – May 2023

University of Texas at Austin

B.Sc. in Physics August 2013 – May 2016

University of Illinois at Urbana–Champaign