

# PEYTON ROSE

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## SKILLS AND TOOLS

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<b>Experienced</b>	Python, C++, Subversion, NumPy, matplotlib, scikit-learn, OpenCV, grid computing
<b>Familiar</b>	Git, SQL, AWS (EC2, S3), HTML, CSS, Flask, TensorFlow, Pandas

## EXPERIENCE

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<b>Insight Health Data Science</b> <i>Data Science Fellow</i>	Jan. 2017 - Present <i>San Francisco, CA</i>
<ul style="list-style-type: none"><li>· Used Flask to build <i>www.isthismetastasis.info</i>, which classifies tissue slide frame images as normal or metastatic.</li><li>· Trained a logistic regression classifier using scikit-learn to automatically identify metastatic tissue in histological slides.</li><li>· Implemented computer vision algorithms with OpenCV to identify key features in slide frame images.</li><li>· Re-purposed the convolutional neural network, Inception-v3, using transfer learning methods with TensorFlow, to construct features capable of distinguishing between normal and metastatic tissue.</li></ul>	

<b>University of California Santa Cruz</b> <i>Graduate Student Researcher</i>	May 2012 - Dec. 2016 <i>Santa Cruz, CA</i>
<ul style="list-style-type: none"><li>· Used cluster and grid computing methods for analyzing multi-terabyte datasets from the Large Hadron Collider (LHC) to study fundamental particle interactions at the energy frontier.</li><li>· Designed an analysis using statistical and multivariate techniques to measure properties of the Higgs boson and set limits on the rate of Higgs boson decays to bottom quarks.</li><li>· Contributed to, and maintained an analysis framework shared by over 40 developers across 15 analyses, which performed calibrations, selections, and bookkeeping for both real and Monte Carlo data.</li><li>· Provided support and upgrades for the ATLAS SemiConductor Tracker, an essential subdetector for measuring the trajectories of particles at the LHC.</li></ul>	

<b>The College of William and Mary</b> <i>Undergraduate Student and Researcher</i>	Aug. 2007 - May 2011 <i>Williamsburg, VA</i>
<ul style="list-style-type: none"><li>· Analyzed data from a nuclear physics experiment (<math>Q_{weak}</math>) to find the optimal operating parameters for a set of detectors.</li><li>· Built a digital voice recorder (with playback) from scratch for a project-based course, using off-the-shelf integrated circuits and a Field Programmable Gate Array (FPGA).</li></ul>	

## EDUCATION

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<b>University of California Santa Cruz</b> Ph.D. in Particle Physics	Dec. 2016 <i>Santa Cruz, CA</i>
<b>The College of William and Mary</b> B.S. in Physics (Honors) and Mathematics, <i>Summa Cum Laude</i>	May 2011 <i>Williamsburg, VA</i>

## HONORS AND AWARDS

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· NSF Graduate Research Fellowship Program Honorable Mention	Mar. 2013
· Phi Beta Kappa	Dec. 2010