

Ritwik Gupta

PERSONAL INFORMATION	Email: ritwikg2004@live.com Web: https://ritwikgupta.me Citizenship: United States
RESEARCH INTERESTS	Computational health, bioinformatics, genomics, computational neuroscience, statistical machine learning, multi-modal machine learning, computer vision, NLP
EDUCATION	Carnegie Mellon University , Pittsburgh, PA Courses as staff, August 2017 - present University of Pittsburgh , Pittsburgh, PA B.S., Computer Science, August 2014 - April 2017 <ul style="list-style-type: none">GPA: 3.67/4.00<i>Magna Cum Laude</i>
EMPLOYMENT	Machine Learning Researcher June 2017 to present Carnegie Mellon University Software Engineering Institute Pittsburgh, PA <ul style="list-style-type: none">Researching and developing a portfolio of work in the areas of applied robotics, machine emotional intelligence, human machine interaction, computer vision, and adversarial machine learning. Working with TensorFlow, Keras, PyTorch, ROS/ROS 2.0, and more. Software Engineer November 2016 to April 2017 UPMC Enterprises Pittsburgh, PA <ul style="list-style-type: none">Working on data coherency platforms and the IBM Watson AI XPrize. Worked on an R&D data visualization platform meant to provide high-fidelity, real-time ADT feed metrics across all hospitals in the UPMC Health System. Data Science Intern May 2016 to August 2016 Apple Cupertino, CA <ul style="list-style-type: none">Applied Machine Learning team. Implementing clustering algorithms on a large dataset that requires deep feature selection and natural language processing. Data Science Intern May 2015 to August 2015 Staples SparX San Mateo, CA <ul style="list-style-type: none">Built recommender systems for Staples, the world's 2nd largest e-commerce retailer. Created models were put into production on Staples.com and emails, outperforming existent models. Utilized novel ML modeling using NLP techniques. Worked with Apache Spark, Hadoop, Mesos, YARN, and Python. Full-Stack/Mobile Developer January 2015 to September 2016 Department of Chemistry , University of Pittsburgh Pittsburgh, PA <ul style="list-style-type: none">Developing the Pitt Quantum Repository, a web platform for molecular visualizations and data. PQR is currently in use by Pitts general chemistry and biology classes. Working with Flask, Bootstrap, LESS, JavaScript, HTML, and Grunt.

	<p>Android Developer June 2014 to present Rectangle Pittsburgh, PA</p> <ul style="list-style-type: none"> Created PAT Track, an Android application to track the public buses of Pittsburgh in real-time. The app has over 35,000 users and is the one of the most popular bus tracking app in the region.
	<p>Data Science Intern June 2014 to September 2014 Department of Biomedical Informatics, University of Pittsburgh, Pittsburgh, PA</p> <ul style="list-style-type: none"> Creating machine learning algorithms to categorize driver and passenger mutations given whole-genome data across various types of cancer. Worked with Python, Theano, nVidia CUDA, and Scikit.
	<p>Research Intern June 2013 to September 2013 Department of Biomedical Informatics, University of Pittsburgh, Pittsburgh, PA</p> <ul style="list-style-type: none"> Analyzing the frequency and distribution of palindromes in the entire human genome, with focus on acute myeloid leukemia. Developed tools in Java, Python, HTML, JavaScript, and D3.
REFEREED JOURNAL PUBLICATIONS	<ol style="list-style-type: none"> Ganapathiraju, M., Gupta, R., Cheng, S., Hammond, T. "Distribution of Palindromes in the Human Genome." <i>Journal of Pathology Informatics</i>. March 28, 2014. <i>J Pathol Inform</i> 2014, 1:12.
SUBMITTED JOURNAL PUBLICATIONS	<ol style="list-style-type: none"> Gupta, R., Sestili C.D., Vazquez-Trejo J.A., and Gaston, M.E. "Focusing on the Big Picture: Insights into an End-to-End Systems Approach to Deep Learning for Satellite Imagery." 2018. In review at <i>KDD 2018</i>.
AWARDS	<p>Pitt Startup Blitz - Winner Nov 2014</p> <ul style="list-style-type: none"> Developed a business plan and mobile application for a student-university healthcare system interface. <p>NASA International SpaceApps Pittsburgh - Winner Apr 2015</p> <ul style="list-style-type: none"> Created a research curation and tagging tool that allowed scientists to better annotate their data using Twitter. <p>Red Bull Hack The Hits - Winner Apr 2016</p> <ul style="list-style-type: none"> Created a all-in-one string instrument using an Arduino, cardboard, and thin potentiometers. Featured in Forbes magazine.
TEACHING EXPERIENCE	<p>Guest Instructor Fall 2017 14-809 - Introduction to Cyber Intelligence Instructor: Jared Ettinger Information Networking Institute, Carnegie Mellon University</p> <p>Teaching Assistant Summer 2014 Introduction to Programming for Bioinformatics Instructor: Adam Handen, Ph.D. Department of Biomedical Informatics, University of Pittsburgh</p>

SERVICE	<p>Dean Search Committee, School of Computing and Information, University of Pittsburgh</p> <ul style="list-style-type: none"> • Helped create the position profile for the Founding Dean position. • Met with and interviewed all applicants and candidates through three rounds of interview phases. • Represented the interests of the undergraduate student population. <p>The Pitt Challenge, School of Pharmacy, University of Pittsburgh</p> <ul style="list-style-type: none"> • Created and directed the Pitt Challenge, a 24-hour hackathon that merged together pharmacy, computer science, and engineering. • Handled logistics, sponsorship, and marketing for the entire event, culminating in a successful event with massive backing from the University. <p>SteelHacks, University of Pittsburgh</p> <ul style="list-style-type: none"> • Created and directed SteelHacks, the largest hackathon in Pittsburgh. • Director of SteelHacks for two years, Director Emeritus since April 2016. • Directed sponsorship and logistics for the event, raising over \$60,000 from over a dozen sponsors. 	<p>Oct 2016 - March 2017</p> <p>Nov 2016 - Feb 2017</p> <p>Nov 2014 - April 2016</p>
PRESENTATIONS	<p>Invited Talks:</p> <ul style="list-style-type: none"> • Machine Learning: A High Schooler’s Intro (Thomas Jefferson High School) • Exploring Deep Learning: Theory and Practice (Carnegie Mellon University) • A Dive Into the World of Machine Learning (University of Pittsburgh) <p>Workshops:</p> <ul style="list-style-type: none"> • Computer Vision to Predict Diabetic Retinopathy (Fox Chapel High School) 	<p>Dec 2017</p> <p>Oct 2017</p> <p>Sep 2017</p> <p>March 2017</p>
SKILLS	<p>Languages:</p> <ul style="list-style-type: none"> • Python, Java, Scala, MATLAB, C, R, Swift <p>Technologies and Frameworks:</p> <ul style="list-style-type: none"> • <i>Deep Learning:</i> TensorFlow, Keras, PyTorch • <i>Numerical Computation:</i> Numpy, Scipy, Numba, JAMA, Breeze • <i>Distributed Computing:</i> Apache Spark, Hadoop, Hive, Cassandra, Mesos, YARN, OpenMP, CUDA • <i>Robotics:</i> ROS, ROS 2.0 	