Rachit Saluja

CONTACT
INFORMATION

Voice Call: (267) 356-1549
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Google Scholar: Link

EDUCATION

Cornell University & Cornell Tech, New York, NY, USA

PhD., Electrical and Computer Engineering, August 2023 - Present
- Advisor: Prof. Mert Sabuncu
- Minors: Computer Science, Computational Biology
- GPA: 4.3

University of Pennsylvania, Philadelphia, PA, USA

MS, Electrical Engineering, May 2019
- Advisor: Prof. Konrad Kording

PES Institute of Technology, Bangalore, India

BE, Electrical and Electronics Engineering, May 2017
- Advisors: Prof. Susmita Deb; Prof. S. Gorthi (IIT Tirupathi)
- Rank: 3/120

WORK &
RESEARCH
EXPERIENCE

Cornell University and Cornell Tech., New York City, NY, USA   July 2023 - Present
Graduate Researcher

Galileo CDS Inc., San Jose, CA, USA   July 2020 - July 2023
Senior ML Software Engineer

Penn Medicine, Philadelphia, PA, USA   August 2019 - June 2020
Research Engineer, Neuroscience and Bioengineering

Galileo CDS Inc., Philadelphia, PA, USA   February 2019 - May 2019
ML Intern

The Wharton School, Philadelphia, PA, USA   June 2018 - September 2018
Research Assistant, Statistics and Predictive Modeling

Ghost Robotics, Philadelphia, PA, USA   May 2018 - June 2018
Robotics, Perception and Autonomy Intern

Indian Institute of Space Science and Tech., Trivandrum, India   May 2016 - August 2016
Indian Academy of Sciences Summer Fellow, Physics Dept.

SanDisk Inc., Bangalore, India   July 2015 - August 2015
Summer Technical Intern

Indian Institute of Science (IISc)   May 2014 - August 2014
Summer Research Intern, Atomic and Optical Physics Lab

SELECTED PUBLICATIONS	**BackSplit: The Importance of Sub-dividing the Background in Biomedical Lesion Segmentation** **Rachit Saluja**, Asli Cihangir, Ruining Deng, Johannes C Paetzold, Fengbei Liu, Mert R Sabuncu *Computer Vision and Pattern Recognition, CVPR - 2026.*

BackSplit: The Importance of Sub-dividing the Background in Biomedical Lesion Segmentation
Rachit Saluja, Asli Cihangir, Ruining Deng, Johannes C Paetzold, Fengbei Liu, Mert R Sabuncu
Computer Vision and Pattern Recognition, CVPR - 2026.

FutureMorph: Toward Predicting Future Deformation Fields in Longitudinal Imaging
Samah Khawaled, Rudolf Leonardus Mirjam Van Herten, **Rachit Saluja**, Mert R Sabuncu
Medical Imaging with Deep Learning, MIDL - 2026.

The Brain Tumor Segmentation (BraTS-METS) Challenge 2023: Brain Metastasis Segmentation on Pre-treatment MRI
Ahmed W. Moawad*, Anastasia Janas*, Ujjwal Baid*, Divya Ramakrishnan*, **Rachit Saluja***, Nader Ashraf*, Leon Jekel*, ... , Spyridon Bakas, Jeffrey D. Rudie, Mariam Aboian
Machine Learning for Biomedical Imaging, MELBA - 2025.

Cancer type, stage and prognosis assessment from pathology reports using LLMs
Rachit Saluja, Jacob Rosenthal, Annika Windon, Yoav Artzi, David J Pisapia, Benjamin L Liechty, Mert R Sabuncu
Scientific Reports - 2025.

BrainMorph: A Foundational Keypoint Model for Robust and Flexible Brain MRI Registration
Alan Q Wang, **Rachit Saluja**, Heejong Kim, Xinzi He, Adrian Dalca, Mert R Sabuncu
Machine Learning for Biomedical Imaging, MELBA - 2025.

The 2024 Brain Tumor Segmentation (BraTS) Challenge: Glioma Segmentation on Post-treatment MRI
Maria Correia de Verdier*, **Rachit Saluja***, Louis Gagnon, Dominic LaBella, Ujjwall Baid, ... , Spyridon Bakas, Evan Calabrese, Jeffrey D. Rudie
arXiv - 2024.

A Framework for Interpretability in Machine Learning for Medical Imaging
Alan Q Wang, Batuhan K Karaman, Heejong Kim, Jacob Rosenthal, **Rachit Saluja**, Sean I Young, Mert R Sabuncu
IEEE Access - 2024.

Computer vision to automatically assess infant neuromotor risk
Claire Chambers, Nidhi Seethapathi, **Rachit Saluja**, Helen Loeb, Samuel R Pierce, Daniel K Bogen, Laura Prosser, Michelle J Johnson, Konrad P Kording
IEEE Transactions on Neural Systems and Rehabilitation Engineering - 2020.

My full list of publications can be found on my Google Scholar

OTHER SCIENTIFIC CONTRIBUTIONS

One of the lead organizers for the **RSNA Intracranial Aneurysm Detection Challenge, 2025**.

One of the lead organizers for the **BraTS-METs and BraTS-GLI Challenge, 2023-25**.

Provided research assistance for the book **Modern Atomic Physics** by Prof. Vasant Natarajan.

TEACHING

Teaching Assistant, Signal Processing and Machine Learning (ECE5414), Fall 2025, Cornell University & Cornell Tech

Teaching Assistant, Introduction to Probability and Statistics (ENM 503), Fall 2017, University of Pennsylvania

Teaching Assistant, Digital Audio Basics (ESE 150), Spring 2018, University of Pennsylvania

TALKS	Lesionwise Segmentation Metrics - MICCAI 2024, BraTS Workshop
	3D markerless tracking for human movement science - Neuromatch Conference (NMC3)
	Multi-animal 3D pose estimation using shape encoder - Neuromatch Conference (NMC2)
	GANs Applied to Brain MRIs for Augmentation of Data from Rare Diseases - SIIM 2019
HONORS & AWARDS	Jacobs Scholarship, 2023: Awarded by Cornell University
	Prof. MRD Merit Scholarship 2017: Awarded by PES Institute of Technology
	IASc-INSA-NASI Summer Research Fellowship, Indian Academy of Sciences, 2016 (2% acceptance)
	Prof. MRD Merit Scholarship 2016: Awarded by PES Institute of Technology
	Distinction Prize (All 8 semesters): Awarded by PES Institute of Technology

TECHNICAL SKILLS

- **Languages**: Python, R, MATLAB, C, C++ SQL, LaTeX
- **Python Libraries**: OpenCV, Pytorch, TensorFlow, Keras, PySpark, SparkML, NLTK, SpaCy, HuggingFace Transformers, Caffe2, Detectron, Dowhy, SHAP, Scikit-Learn, XGBoost, LightGBM, Pandas, Numpy, BeautifulSoup, Selenium
- **Data Engineering Skills**: AWS, GCloud, Docker, Kubernetes, Spark, Hive, Hadoop, CUDA, Sacred, MLFlow, ETL, ClearML, DVC
- **Data Visualization Skills**: Tableau, Ggplot, Matplotlib, Seaborn, Plotly, Graph-tool, Bokeh
- **Operating Systems**: Unix/Linux, Windows, RedHat