

CURRICULUM VITAE
Department of Biomedical Informatics
University of Pittsburgh School of Medicine

Summary Statement

I'm a Ph.D. candidate in Biomedical Informatics at the University of Pittsburgh School of Medicine. Prior to this, I worked as a full-time Software Engineer in the telecommunication and defense sector. My research interests lie at the intersection of data science and software engineering, specifically within healthcare applications. I am fascinated by the systems approach to studying medicine and am driven to develop novel methods that facilitate computer-aided detection and predictive models. Currently, I am exploring the use of machine learning, graph theory, and neuroimaging datasets to create explainable models that can deepen our understanding of neurodevelopment and cognitive outcome. My aim is to use these models to make intuitive inferences on clinical cases for both typical and non-typical patients.

BIOGRAPHICAL

Name:	Joy Roy	Citizenship:	USA
Business Address:	Department of Biomedical Informatics 5607 Baum Blvd, Suite 500 Pittsburgh, PA 15206	Website:	joyroy.org
		E-Mail Address:	jor115@pitt.edu

EDUCATION and TRAINING

GRADUATE:

Dates Attended	Name and Location	Degree Received	Subject
2020 - Present	University of Pittsburgh School of Medicine Pittsburgh, PA	PhD	Biomedical Informatics

UNDERGRADUATE:

Dates Attended	Name and Location	Degree Received	Subject
2015 - 2019	University of Maryland, Baltimore County Baltimore, MD	BS	Major: Bioinformatics and Computational Biology
2015 - 2019	University of Maryland, Baltimore County Baltimore, MD	BA	Major: Mathematics Minor: Computer Science

APPOINTMENTS and POSITIONS

ACADEMIC:

Years Inclusive	Name and Location of Institution	Rank/Title
2020 - Present	University of Pittsburgh School of Medicine	Doctoral Fellow
2017 - 2019	University of Maryland Baltimore County Lobo Lab	Research Assistant

NON-ACADEMIC:

Years Inclusive	Name and Location of Institution	Rank/Title
2019 - 2020	Hughes Network Systems Gaithersburg, MD	Software Engineer, Contract
Summer 2017	Food and Drug Administration Division of Biotechnology Research and Review Silver Spring, MD	ORISE Research Fellow

HONORS

- 2023 Runner Up, Best Student Paper of the Year, Department of Biomedical Informatics
Limbic pathway vulnerability associates with neurologic outcome in children
after cardiac arrest
Resuscitation, 2023 Jan;182:109634
- 2023 Bronze Medal Focus Talk
Functional Network Organization is Atypical in Congenital Heart Disease
National Library of Medicine T15 Training Conference 2023 - Stanford University
- 2022 Runner Up, Student Paper of the Year, Department of Biomedical Informatics
Defining telehealth for research, implementation, and equity
Journal of Medical Internet Research, 2022 Apr 13;24(4):e35037
- 2019 Namecheap &.ME Innovation Award
Johns Hopkins Hospital MedHacks 2019
- 2019 UMBC Faculty Award for Excellence in Bioinformatics
University of Maryland Baltimore County
- 2019 Departmental Honors in Research, Department of Biology
University of Maryland Baltimore County

PROFESSIONAL ACTIVITIES**Seminars and Lectures**

2022

UPMC Hillman Cancer Center Academy

Pittsburgh, PA

*Intro to Imaging Informatics Research***Graduate School Teaching**

2022

Teaching Assistant: Publication and Presentations

Department of Biomedical Informatics,

University of Pittsburgh School of Medicine, Pittsburgh, PA

Student Mentoring

2023

Jose Maldonado, CoSSBI Summer Scholar

2022

Ansh Goyal, CoSSBI Summer Scholar

PRESENTATIONS

1. Roy J, Reynolds W, Wallace J, Badaly D, Panigrahy A, Ceschin R. Functional network organization is locally atypical in congenital heart defect. Lecture presented at: Pittsburgh MR Physicists Monthly Seminar; 2024; Pittsburgh, PA.
 2. Roy J, Reynolds W, Frank M, Panigrahy A, Ceschin R. Functional network organization is globally atypical in congenital heart defect. Poster presented at: Flux Society Symposium; 2023; Santa Rosa, CA.
 3. Roy J, Reynolds W, Frank M, Panigrahy A, Ceschin R. Functional network organization is globally atypical in congenital heart defect. Oral presented at: NLM T15 Training Conference; 2023; Stanford University.
 4. Roy J, Ceschin R, Devine D, Panigrahy A, Fink EL. Diffusion tensor imaging as a biomarker for pediatric cardiac arrest outcomes. Poster presented at: American Medical Informatics Association Symposium; 2022; Washington, D.C.
 5. Roy J, Ceschin R, Devine D, Panigrahy A, Fink EL. Diffusion tensor imaging as a biomarker for pediatric cardiac arrest outcomes. Oral presented at: NLM T15 Training Conference; 2022; University of Buffalo School of Medicine.
 6. Roy J, Panigrahy A, Ceschin R. Evaluating brain age models in adolescents with CHD. Poster presented at: American Medical Informatics Association Symposium; 2021; San Diego, CA.
 7. Roy J, Cheung E, Bhatti J, Muneem A, Lobo D. Semi-automatic ontology curation methods for a planarian gene expression pattern database. Oral presented at: Undergraduate Research and Creative Achievement Day; 2019; University of Maryland Baltimore County.
 8. Roy J, Cheung E, Bhatti J, Muneem A, Lobo D. A software tool for the curation of planarian gene expression patterns. Oral presented at: National Symposium for Undergraduate Research; 2018; St. Jude Hospital.
 9. Roy J, Hess E, Chowdhury M, Swisher J, Feldman G. The functional capabilities of an IgG4 FC are comparable to its IgG1 analog. Poster presented at: Annual Biomedical Research Conference for Minority Students; 2017; Phoenix, AZ.
 10. Roy J, Hess E, Chowdhury M, Swisher J, Feldman G. The functional capabilities of an IgG4 FC are comparable to its IgG1 analog. Poster presented at: Food and Drug Administration Summer Research Day; 2017; Silver Springs, MD.
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PUBLICATIONS

References

1. Roy J, Reynolds W, Panigrahy A, and Ceschin R. Functional network organization is locally atypical in children and adolescents with congenital heart disease. medRxiv 2024 Apr :2024.04.19.24306106. DOI: 10.1101/2024.04.19.24306106. Available from: <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC11065028/> [Accessed on: 2024 Jun 21]
2. Roy J, Jarvis JM, Schmithorst V, Lee V, Devine D, Meyers B, Munjal N, Clark RSB, Kochanek PM, Panigrahy A, Ceschin R, and Fink EL. Limbic pathway vulnerability associates with neurologic outcome in children after cardiac arrest. Resuscitation 2023 Jan; 182:109634. DOI: 10.1016/j.resuscitation.2022.10.026. Available from: <https://www.sciencedirect.com/science/article/pii/S0300957222007067>
3. Roy J, Levy DR, and Senathirajah Y. Defining telehealth for research, implementation, and equity. EN. Journal of Medical Internet Research 2022 Apr; 24:e35037. DOI: 10.2196/35037. Available from: <https://www.jmir.org/2022/4/e35037>
4. Roy J, Cheung E, Bhatti J, Muneem A, and Lobo D. Curation and annotation of planarian gene expression patterns with segmented reference morphologies. Bioinformatics 2020 May; 36:2881–7. DOI: 10.1093/bioinformatics/btaa023. Available from: <https://doi.org/10.1093/bioinformatics/btaa023>