PRITIKA DASGUPTA

I am currently working on analyzing gait accelerometry signals with machine learning and causal hypotheses. I seek to perform quantitative or mixed-methods research in healthcare informatics in order to facilitate better health outcomes.

Ph.D. Candidate
University of Pittsburgh, School of Medicine,
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Pittsburgh, PA

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EDUCATION

Ph.D. Expected Spring 2021	University of Pittsburgh, School of Medicine, Department of Biomedical Informatics, Pittsburgh, PA Doctorate of Philosophy in Biomedical Informatics Committee: Ervin Sejdić, Xinghua Lu, Mark Redfern, Jessie VanSwearingen, Sofia Triantafillou Dissertation: "Acceleration Signals In Determining Gait-Related Difficulties And The Motor Skill Of Walking In Older Adults"
M.S. December 2017	University of Pittsburgh, School of Medicine, Department of Biomedical Informatics, Pittsburgh, PA Master of Science in Biomedical Informatics Committee: Ervin Sejdić, Xinghua Lu, Jessie VanSwearingen, Rich Tsui Thesis: "You can tell by the way I use my walk." Predicting the presence of cognitive load with gait measurements
M.H.I. April 2016	University of Michigan, School of Public Health, School of Information, Ann Arbor, MI Master of Health Informatics
M.P.H. August 2014	University of Michigan, School of Public Health, Ann Arbor, MI Master of Public Health in General Epidemiology Capstone Project: "Mathematical Modeling of the Pathogenesis of Human Papilloma Virus (HPV) in Oropharyngeal Squamous Cell Carcinoma (OSCC)"
Certificate August 2014	University of Michigan, School of Public Health, Ann Arbor, MI Certificate in Public Health Genetics
B.S. May 2012	Cornell University, College of Engineering, Ithaca, NY Bachelor of Science in Biological Engineering Minor: Biomedical Engineering Fundamentals of Engineering Exam Certification Senior Capstone Project: "Safe Relief: Modeling concentration profiles of Baclofen deposited in the intrathecal space by a pump-operated drug delivery system"

PUBLICATIONS

‡P8 2020	Dissertation Aim 3: "The Selection of Influential Acceleration Gait Measures for the Motor Skill of Walking"
*P7 2020	Dissertation Aim 7: "Deep Learning Framework Applied to Inertial Data from Smartphone Sensors During a Walking Task to Detect Past and Future Falls Among Older Community-Dwelling Adults" Under Review at Intelligence-Based Medicine
*P6 2020	Dissertation Aim 1: Is Human Walking a Network Problem?: An Analysis Using Symbolic Regression Models with Genetic Programming Under Review at Computer Methods and Programs in Biomedicine
*P5 2020	Review paper: "Acceleration Gait Measures as Proxies for Motor Skill of Walking: A Narrative Review" Accepted (awaiting publication) at IEEE Transactions on Neural Systems & Rehabilitation Engineering
P4 August 2020	Suffoletto B, **Dasgupta P**, Uymatiao R, Huber J, Flickinger K, Sejdic E. A Preliminary Study Using Smartphone Accelerometers to Sense Gait Impairments Due to Alcohol Intoxication. Journal of Studies on Alcohol and Drugs. 2020 Jul;81(4):505-10.
P3 December 2018 (Best Student Paper at DBMI, August 2019)	**Dasgupta P**, VanSwearingen J, Sejdic E. "You can tell by the way I use my walk." Predicting the presence of cognitive load with gait measurements. Biomedical engineering online. 2018 Dec;17(1):122.
P2 January 2017	Pal J, Chandra P, Chirumamilla P, Kameswaran V, Gonawela A, Thawani U, **Dasgupta P**. Innuendo as Outreach:@ narendramodi and the Use of Political Irony on Twitter. International Journal of Communication (19328036). 2017 Jan 1;11.
P1 May 2012	**Dasgupta P**, Pattanaik S, Bai L. Safe Relief: Modeling concentration profiles of Baclofen deposited in the intrathecal space by a pump-operated drug delivery system.

**Under Review*
‡Plan to Submit

POSTERS AND TALKS

Workshop Presentation	**Dasgupta P.** DATA2VIZ: An Overview of Data Visualization in Research. IEEE Pittsburgh event. 2020 Oct 14. Pittsburgh, PA, USA
Poster	**Dasgupta P**, Sejdic E. Mapping motor skills to acceleration gait measures in older adults. Poster presented at: AMIA Annual Symposium Proceedings. 2019 Nov 16-20; Washington D.C., USA
Poster	**Dasgupta P**, Sejdic E. Cognitive Load During Walking Can Be Predicted from Gait Measurements with High Accuracy. Poster presented at: AMIA Annual Symposium Proceedings. 2018 Nov 2-7; San Francisco, CA, USA
Poster	Sejdic E., **Dasgupta P.**, Khalifa Y., Mao S., Zhang Z. Engineering Human Functions: Novel Data Analytics and Instrumentation to Alter Swallowing and Gait. Poster presented at: 6th Arab-American Frontiers of Science, Engineering, and Medicine Symposium. 2018 Nov 4-6; Kuwait City, Kuwait
Poster	**Dasgupta P**, Sejdic E. Cognitive Load During Walking Can Be Predicted from Gait Measurements with High Accuracy. Poster presented at: DBMI Annual Training Program Retreat; 2018 Aug 23; Pittsburgh, PA, USA
Presentation	Dasgupta P, VanSwearingen J, Sejdic E. "You can tell by the way I use my walk." Predicting the presence of cognitive load with gait measurements. Oral Presentation at: 8th World Congress of Biomechanics, 2018 July 8-12; Dublin, Ireland
Poster	**Dasgupta P**, Sejdic E. Cognitive Load During Walking Can Be Predicted from Gait Measurements with High Accuracy. Poster presented at: NLM Informatics Training Conference; 2018 Jun 4-5; Nashville, TN, USA
Poster	**Dasgupta P**, VanSwearingen J, Sejdic E. "You can tell by the way I use my walk." Predicting the presence of cognitive load with gait measurements. Poster presented at: 4th Annual Women in STEM Conference, 2018 Feb 10; Pittsburgh, PA, USA
Research Presentation	**Dasgupta P**, VanSwearingen J, Sejdic E. "You can tell by the way I use my walk." Predicting the presence of cognitive load with gait measurements. Oral Presentation at: BGSA Annual Symposium, 2017 Oct 11; Pittsburgh, PA, USA
Poster (won Best Poster award)	**Dasgupta P**, VanSwearingen J, Sejdic E. "You can tell by the way I use my walk." Predicting the presence of cognitive load with gait measurements. Poster presented at: DBMI Annual Training Program Retreat; 2017 Aug 24-25; Pittsburgh, PA, USA
Poster	**Dasgupta P** Cyberinfrastructure Days 2013
Poster	**Dasgupta P** Epidemiology Internship Poster Session 2013

RESEARCH EXPERIENCE

NLM funded Trainee/Researcher Jan 2017 - Present	UNIVERSITY OF PITTSBURGH, Department of Biomedical Informatics, Pittsburgh, PA Primary Mentor: Dr. Ervin Sejdic Analyzing gait accelerometry signals with machine learning and causal hypotheses.
Researcher Oct. 2015 – Sept. 2018	UNIVERSITY OF MICHIGAN – ANN ARBOR, Department of Learning Health Sciences, Ann Arbor, MI Primary Mentor: Dr. Karandeep Singh Understanding the strength of correlations between pelvic pain and a variety of medical disorders in female adults in the University of Michigan Health Identify comorbidities associated with pelvic pain based on claims data and to statistically characterize patients with pelvic pain
R&D Intern July 2015 – Sept. 2015	3M, Research and Development Department, Murray, UT Develop advancements in health informatics as a part of the Healthcare Data Dictionary / Medical Terminology team
Fellow Jan 2015 – June 2015	UNIVERSITY OF MICHIGAN – ANN ARBOR, School of Information, Ann Arbor, MI One of four UM graduate students working as a team to design and develop a comprehensive web portal of health resources for elders, their families, and eldercare organizations in Bangalore, India
Research Assistant Sept. 2012 – May 2015	UNIVERSITY OF MICHIGAN – ANN ARBOR, School of Public Health, Ann Arbor, MI Principle Investigator: Dr. Sharon Kardia Compile GWAS results and analyze exome-chip regions for the key traits of the research group: traits of common chronic diseases such as cardiovascular and kidney disease
Researcher Mar. 2013 – Aug. 2014	UNIVERSITY OF MICHIGAN – ANN ARBOR, School of Public Health, Ann Arbor, MI Principle Investigator: Dr. Marisa Eisenberg, Dr. Rafael Meza, Dr. Thomas Carey Examine the relationship between Human Papilloma Virus (HPV) and oropharyngeal cancer, in relation to alcohol, smoking, sexual behaviors, and other risk factors Collect survey and oral sample data, HPV genotyping, and gene expression measurements
Biomechanics Researcher Sept. 2010 – May 2011	CORNELL UNIVERSITY, Department of Aerospace and Mechanical Engineering, Ithaca, NY Principle Investigator: Associate Professor, Dr. Christopher Hernandez Embedded bone prior to imaging under a histological process; researched and developed suitable protocols for bone embedding Analyzed medical images, such as CT scans of bone, using MagicView, ImageJ, and MATLAB; researched models using CT scan data Performed rat tail vertebrae loading experiments and human spine dissection in wet lab

TEACHING EXPERIENCE

Teaching Assistant
Jan. 2019 – Apr. 2019;
Jan. 2020 – Apr. 2020
(won Best TA award 2019)

UNIVERSITY OF PITTSBURGH, Department of Biomedical Informatics, Pittsburgh, PA
BIOINF 2118: Statistical Foundations of Biomedical Informatics

- Worked under the mentorship of Dr. Douglas Landsittel
- Develop homework for 1.5 hour classes 2 times a week
- Independently provide introductory R lessons and workshops 2-3 times per month
- Conduct 2 hours of office hours, per week

Representative
Jan. 2018 – June 2018

UNITED STATES NATIONAL LIBRARY OF MEDICINE, Bethesda, MD (Pittsburgh, PA)
NLM Training Meeting Steering Committee for the NLM 2018 Informatics Training Conference

- Helped organize and place abstracts, with other representatives from NLM-funded institutions
- Helped plan the schedule of events, which included focus sessions and poster sessions

Teaching Assistant
Sept. 2017 – Dec. 2017;
Sept. 2018 – Dec 2018

UNIVERSITY OF PITTSBURGH, Department of Biomedical Informatics, Pittsburgh, PA
BIOINF 2011: Foundations of Health Informatics

- Worked under the mentorship of Dr. Rich Tsui (2017) and Dr. Gerry Douglas (2018)
- Develop lesson plans, homework, and exams for 1.5 hour classes 2 times a week
- Conduct 2 hours of office hours, per week
- Guest lectured about Natural Language Processing on Sept. 26, 2018

Graduate Student Instructor for ASIANLAN-185
Sept. 2015 – Present

UNIVERSITY OF MICHIGAN – ANN ARBOR, Ann Arbor, MI

- Independently and solely teach introductory Bengali language in the Asian Languages and Cultures (ALC) department under the mentorship of Dr. Syed Ekhtayer Ali
- Develop additional lesson plans and class materials for 1 hour classes 4 times per week
- Conduct 4 hours worth of office hours, per week, and attend teaching workshops in the ALC department

(GSM) Graduate Student Mentor for MCDB 306 (Fall & Winter Term)
Jan. 2015 – May 2015

UNIVERSITY OF MICHIGAN – ANN ARBOR, Ann Arbor, MI

- Mentor new GSIs in the MCDB department
- Develop additional lesson plans and instructor guides

Graduate Student Instructor for MCDB 306 (Fall & Winter Term)
Sept. 2013 – May 2015

- One of four teaching assistants for 100-student introductory genetics laboratory course for upper-class undergraduates
- Develop lessons and materials for and taught a 24-student laboratory section once per week

Head Graduate Student Instructor for MCDB 305
May 2013 – Jun. 2013/May 2014 – Jun. 2014

- Head GSI for 100-student introductory genetics theory course for undergraduates
- Developed course materials in conjunction with the lecturer
- Developed lessons and materials for and taught a 25-student recitation section four times per week

Intern
Jun. 2012 – Aug. 2012

WEILL CORNELL MEDICAL COLLEGE, Information Technology & Services, New York, NY

- Developed an electronic database to catalog and register existing social media accounts across the institution - who's using them, for what, how often, etc.
- Conducted field interviews with client departments to understand their existing use of social media, or their desire to do so
- Researched, piloted, and demoed add-on tools to Web Communications management that may provide additional functionality
- Developed and implemented selected tools to create new service; examples of these tools include a social media website and education tools relaying information about new technologies and the ethical standards of the institution
- Researched and documented best practices for use of social media in education and health care

Cornell Undergraduate/ Community Partnerships Intern
Oct. 2009 – Apr. 2010

CORNELL UNIVERSITY, New York Space Grant Consortium, Ithaca, NY

- Learned and gained experience in outreach education; interacted with space sciences research scientists in areas related to my career goals
- Taught and translated subject matter knowledge for K-12 students as well as for the general public; reinforced and enhanced my own learning and knowledge in subjects related to sciences

LEADERSHIP EXPERIENCE

Co-founder Sept. 2011 – May 2012	COME OUT FOR HEALTH, CORNELL UNIVERSITY, Ithaca, NY Raised awareness of LGBT health issues and resources on campus and proceed with different health interventions Coordinated regular meetings with faculty and staff members who study public health and gender an sexuality issues Developed an anti-smoking campaign in the LGBT community for the 2011-12 academic year
Career Peer Advisor Aug. 2009 – May 2012	CORNELL UNIVERSITY, Engineering Co-op and Career Services, Ithaca, NY Conducted mock interviews; critiqued and evaluated 5-10 resumes and cover letters per day Communicated and gave feedback to engineering students regarding career advice Assisted with reception duties and assisted the Co-op Assistant in the creation and collection of Co-op materials (forms, letters, reports, hand-outs) and Co-op events (workshops, events, etc)
Professional Development Chair Mar. 2011 – Jan. 2012	EMED, CORNELL UNIVERSITY, College of Engineering, Ithaca, NY Professional Development Chair Mar. 2011 – Jan. 2012 Coordinated events directed at the professional development of eMed members through bringing in speakers and coordinating doctor shadowing programs Maintained the Online eMed Database by updating alumni information and surveying seniors for information relevant to eMed
Peer Advisor for ENGRG 1050 Apr. 2011 – Dec. 2011	CORNELL UNIVERSITY, College of Engineering, Ithaca, NY Coordinated an ENGRG 1050 class of 30 students, a class that all first year engineering students take once a week Co-edited and co-developed the Peer Advisor Handbook Assisted with freshmen orientation events

VOLUNTEER EXPERIENCE

Member September 2012 – April 2016	PUBLIC HEALTH ACTION SUPPORT TEAM (PHAST) Assist local and state health departments with public health events, projects, disasters, and investigations
Volunteer August 2006 – January 2012	NORTH MEMORIAL HOSPITAL, Robbinsdale, MN Managed and conducted projects regarding literature research in the Medical Library department Assist in the Emergency Department with patient escort, and room preparation and inspection Assisted nurses with paperwork and inventory management, advised patients and assisted them in locating hospital departments, delivered flowers, and discharged patients