RUMANA (RU) RASHID

rumanarashid001@gmail.com Google Scholar | LinkedIn

MD/PhD candidate leveraging my multifaceted background in clinical medicine, AI research, and venture capital to drive innovation that transforms healthcare.

EDUCATION

MD, University of Pittsburgh, expected May 2026

PhD, Biomedical Informatics, University of Pittsburgh, 2024

MS, Biomedical Informatics, Harvard University, 2019

Programming Skills

Python, R, MATLAB, Unix/ Linux, machine learning, cloud computing, Jupyter

Laboratory Skills

Cell culture, sequencing, microscopy (light, fluorescence, confocal, electron, focused ion beam, FRAP, expansion, live-cell)

Select Courses Taught

Deep Learning for Biomed Applications

Computationally-Enabled Medicine

Select Invited Presentations

Wash U Brain Tumor Symp
Harvard Ludwig Cancer Center

Media Coverage

Pittsburgh Channel 4 News
MSTP Student Spotlight
Havard Medical News

Metrics

h-index: 10
i10-index: 11

VENTURE EXPERIENCE

Venture Consultant, Multiple startups & organizations — Jun 2021 – Mar 2024

- Wrote the healthcare sector investment thesis for Dubai Future District Fund, a VC firm backed by UAE government; conducted due diligence on health tech startups in MENA region
- Served as Director of Venture Capital on the Board of MD+, a nonprofit empowering physician-innovators, by building VC partnerships, organizing panels with KOLs, and supervising teams developing investment theses in diagnostics, therapeutics, and digital health
- Supported company-side fundraising at Ariel Precision Medicine, a clinical stage oncology drug startup, building investor pitch decks and defining VC outreach strategy
- Created investor education content for Out-Of-Pocket's healthcare bootcamp, covering system structure, insurance models, care delivery, and healthcare economics across six global markets

Venture Capital Fellow, Nextech Invest — Jun 2021 – Jun 2022

- Conducted due diligence on 30+ startups, leading to 8 investments across Series A, B, C, and post-IPO and allocation of $129M across 2 funds
- Created a valuation framework for AI-based companies and led due diligence for AI-driven drug discovery startups, including data room analysis, diligence calls, and investment memos
- Authored strategy briefs and scientific deep dives on ADCs, AI, and clinical trial design to assess market opportunities; monitored public portfolio companies, and supported LP reporting

RESEARCH EXPERIENCE

PhD Resercher, Pitt (in collaboration with Harvard) — Jun 2022 – Dec 2024

- Spearheaded a translational biomarker development project focused on DNA damage and therapeutic response in cancer, integrating high-plex imaging, AI, and patient tissue to advance precision oncology
- Developed and applied a 28-marker DNA damage imaging panel to >350 tumors across cancer types, profiling heterogeneity, identifying novel subtypes, and demonstrating cross-indication potential
- Created REPAIR, an AI-based framework to predict therapeutic response in glioblastoma; outperformed the clinical standard (AUC=0.94) and enabled patient stratification for clinical trials
- In parallel to thesis, led pharmacodynamic biomarker analysis in a first-in-human Phase 0 clinical trial of an MDM2 inhibitor in glioblastoma and design of national biobanks and patient registries for rare tumors, advancing precision oncology infrastructure and resulting in multiple 1st-author publications

Scientist of CyCIF Technologies, Harvard — Jun 2016 – Aug 2020

- Produced 10+ publications (4 first-author) and supported an IND-enabling clinical trial through tumor immunology and biomarker research across 6 cancer types and 1,500+ patient tumors using high-plex imaging and single-cell -omics analysis
- Co-developed a novel high-plex imaging platform (CyCIF), contributing to $10M in research funding acquisition
- Led cross-functional team to build Minerva, now the official image viewer for the National Tumor Atlas Network web portal

CLINICAL EXPERIENCE

MD Candidate, University of Pittsburgh — Aug 2020– present

- Performed interviews, physical exams, procedures, and EHR documentation; contributed to diagnosis and management of 1000+ patients across diverse clinical contexts
- Completed foundational science training and 4–8-week clinical rotations across 12+ specialties (internal medicine, surgery, pediatrics, family medicine, neurology, psychiatry, OB/GYN, urology, emergency medicine, ENT, ophthalmology, and oncology) at UPMC hospitals
- Gained insight into clinical unmet needs and real-world integration of biomedical innovations

PUBLICATIONS

Rashid R, et al., A Precision Medicine Framework for Predicting Therapeutic Response in Cancer Using Replication Stress Biomarker-Based Models. *In Preparation.*

Rendo V,… **Rashid R**,…. Beroukhim R. A window-of-opportunity trial reveals mechanisms of response and resistance to navtemadlin in patients with recurrent glioblastoma. Science Translational Medicine. 17, eadn6274(2025). DOI:10.1126/scitranslmed.adn6274

Coy,… **Rashid R**,…. Santagata. 2D and 3D multiplexed subcellular profiling of nuclear instability in human cancer. bioRxiv 2023.11.07.566063; doi: https://doi.org/10.1101/2023.11.07.566063

Rashid R, Copelli S, Silverstein JC, Becich MJ. REDCap and the National Mesothelioma Virtual Bank-a scalable and sustainable model for rare disease biorepositories. JAMIA. 2023 Sep 25;30(10):1634-1644.doi:10.1093/jamia/ocad132. PMID: 37487555; PMCID: PMC10531116. **(first author)**

Li C*, **Rashid R*,** Sadhu E, Santagata S, and Becich MJ. "Next Generation Biorepository Informatics: Supporting Genomics, Imaging, and Innovations in Spatial Biology." Clinical Research Informatics, Edition 3 (pp.69-90). Edited by R. Richesson. doi: 10.1007/978-3-031-27173-1_. **(*co-first author)**

Coy S, Wang S, ...**Rashid R**,… Santagata S. Single cell spatial analysis reveals the topology of immunomodulatory purinergic signaling in glioblastoma. Nature Communications. 13, 4814 (2022).

Rashid R., Chen, YA., Hoffer, J. et al. Narrative online guides for the interpretation of digital-pathology images and tissue-atlas data. Nature Biomedical Engineering (2021). PMID: 34750536. **(first author)**

Hoffer J*, **Rashid R*,** … Pfister H, Santagata S, and Sorger PK. Minerva: a light-weight, narrative image browser for multiplexed tissue images. Journal of Open Source Software. 2020. **(*:co-1st author)**

Rashid R, Gaglia G, Chen Y, Lin JR, Du Z, Maliga Z, Schapiro D, Yapp C, Muhlich J, Sokolov A, Sorger P, Santagata S. Highly multiplexed immunofluorescence images and single-cell data of immune markers in tonsil and lung cancer. Nature Scientific Data. 2019 12 17; 6(1):323. PMID: 31848351. **(first author)**

Human Tumor Atlas (HTAN) Network (incl. **Rashid R**). The Human Tumor Atlas Network: Charting Tumor Transitions across Space and Time at Single-Cell Resolution. Cell. 2020; 181:236–249.

Gaglia G, **Rashid R**, Yapp C, Joshi GN, Li CG, Lindquist SL, Sarosiek KA, Whitesell L, Sorger PK, Santagata S. HSF1 phase transition mediates stress adaptation and cell fate decisions. Nature Cell Biology. 2020 02;22(2):151158. PMID: 32015439.

Coy S, **Rashid R**, Stemmer Anat, Santagata S. An update on the CNS manifestations of neurofibromatosis type 2. Acta Neuropathologica. 2020 Apr; 139(4):667. PMID: 31432207.

Du Z*, Lin JR*, **Rashid R*,**… Sorger PK, Santagata S. Qualifying antibodies for image-based immune profiling and multiplexed tissue imaging. Nature Protocols. 2019 10; 14(10):2900-2930. PMID: 31534232. **(*:co-1st author)**

Bandopadhayay P,…**Rashid R**,… Beroukhim R. Neuronal differentiation and cell-cycle programs mediate response to BET bromodomain inhibition in MYC-driven medulloblastoma. Nature Communications. 2019 06 03; 10(1):2400. PMID:31160565.

Coy S, **Rashid R**, Lin J, Du Z, …. Manley P, Kieran M, Reardon D, Sorger S, Santagata S. Multiplexed immunofluorescence reveals potential PD-1/PD-L1 pathway vulnerabilities in craniopharyngioma. Neuro Oncology. 2018 07 05; 20(8):1101-1112. PMID: 29509940. **(Journal Cover)**

AWARDS

National Library of Medicine, T15 Funding, 2022-2024
University of Pittsburgh & Carnegie Mellon University, MSTP, T32 Funding, 2020-2026
Pitt Challenge Hack-a-thon, Mobile Health Records Track, Winner, 2020
Paul & Daisy Soros Fellowship for New Americans, Finalist, 2020
Harvard Innovation Labs Venture Program, Startup Funding, 2019
Amazon Web Services, Research Grant, 2019
Harvard University, Selected by faculty as "Outstanding Master's Student" among all graduating students, 2019
University of Virginia, Health Unbound Medical Design Competition, Winner/Grant Recipient, 2015
University of Virginia, Sacagawea Award for excellent leadership in fire emergency, 2013