








RICHARD S. HANNA

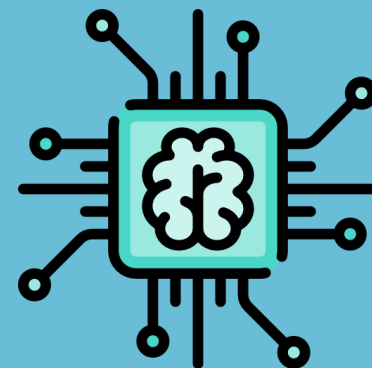
As a Data Scientist at the Children's Hospital of Philadelphia, I develop data-driven solutions and design operational software to support clinical and research needs. The contextual scope of my work has ranged from [pediatric cardiac arrest](#) to [airway management](#) and, most recently, to cell and gene therapy and stem cell transplantation. My passion is to provide both education and problem solving support through data science and engineering in an effort to improve patient care and answer cutting-edge medical questions.

EDUCATION

- 2015
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2013 • **M.S., Biomedical Engineering**
Drexel University  Philadelphia, PA
 - 2015
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2013 • **Graduate Certificate in Engineering Management**
Drexel University  Philadelphia, PA
 - 2015
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2010 • **B.S., Mechanical Engineering**
Drexel University  Philadelphia, PA
- Senior Design Project: [Automated Couette Flow Blood Viscometer](#)

EXPERIENCE

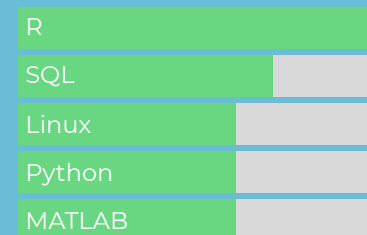
- Present
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2021 • **Data Scientist**
[Children's Hospital of Philadelphia - Cell & Gene Therapy Laboratory](#)
 Philadelphia, PA
 - Developed applications for chimeric antigen receptor therapy research
 - Implemented cloud computing solutions via Amazon Web Services for application hosting and development
 - Worked closely with clinicians and researchers to address data needs and construct proper workflows
- 2021
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2019 • **Data Analyst & Research Engineer**
[Children's Hospital of Philadelphia - Department of Anesthesiology & Critical Care Medicine](#)
 Philadelphia, PA
 - Developed a full data pipeline for an international research collaborative
 - Created data dashboards, reports, and tools to inform clinical decisions
 - Led data-driven projects and team infrastructure using R, Python, & MATLAB
 - Consulted with external institutions to supply database solutions
- 2019
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2017 • **Research Project Engineer**
[Children's Hospital of Philadelphia - Department of Anesthesiology & Critical Care Medicine](#)
 Philadelphia, PA
 - Minimized completion time for various tasks through automated solutions
 - Analyzed patient waveforms and data streams from various medical devices
 - Supervised data quality and integrity in database systems
 - Developed a novel method for anterior/posterior pediatric chest geometry modeling
- 2017 • **Project Engineer**
[GS Medical USA](#)  King of Prussia, PA
 - Led R&D life cycle of multiple spinal fixation system projects
 - Served as the point of contact for surgeons and customers
 - Conducted mechanical testing per ASTM and ISO standards for quality control
 - Oversaw development of the Occipital-Cervical-Thoracic fixation system



CONTACT

 richardshanna91@gmail.com
 [richard_s_hanna](https://twitter.com/richard_s_hanna)
 github.com/rsh52
 richardshanna.com
 (609) 320-2923

SKILLS



BI SOFTWARE SKILLS

Tableau
Power BI

CERTIFICATIONS

[FE/EIT Certified by NCEES](#)

- 2017
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2015

- **Associate Project Engineer**
[GS Medical USA](#)
King of Prussia, PA
 - Supported project leadership in design and development of spinal implant systems
 - Consulted with international partners over production needs
 - Observed surgical cases demonstrating company product use
- 2015
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2014

- **Biomechanics Engineering Researcher**
[Children's Hospital of Philadelphia - Center for Injury Research & Prevention](#)
Philadelphia, PA
 - Created a virtual surrogate model for child restraint system assessment
 - Coauthored and presented publications on research findings
 - Assessed occupant motion and injury kinematics using motion capture technology



SELECTED PUBLICATIONS & POSTERS

- 2021

- **Effect of Amplitude Spectral Area on Termination of Fibrillation and Outcomes in Pediatric Cardiac Arrest**
[JAHA](#)
Tia T. Raymond, Sandeep V. Pandit, Heather Griffis, Xuemei Zhang, Richard Hanna, Dana E. Niles, Annemarie Silver, Javier J. Lasa, Sarah E. Haskell, Dianne L. Atkins, Vinay M. Nadkarni
- 2020

- **Pediatric cardiopulmonary resuscitation quality during intra-hospital transport.**
[Resuscitation](#)
Morgan Loaec, Adam S Himebauch, Todd J Kilbaugh, Robert A Berg, Kathryn Graham, Richard Hanna, Heather A Wolfe, Robert M Sutton, Ryan W Morgan
- 2019

- **Pediatric In-Hospital CPR Quality at Night and on Weekends**
[Resuscitation](#)
Ivie Esangbedo, Priscilla Yu, Tia Raymond, Dana E. Niles, Richard Hanna, Xuemei Zhang, Heather Wolfec, Heather Griffis, Vinay Nadkarni for the Pediatric Resuscitation Quality (pediRES-Q) Collaborative Investigators
- 2018

- **Is CPR Quality Worse on Nights and Weekends in the Cardiac ICU?**
[PCICS](#)
Priscilla Yu, Ivie Esangbedo, Heather Griffis, Richard Hanna, Vinay Nadkarni, Dana E. Niles, Tia Raymond
- 2018

- **Cardiopulmonary Resuscitation in the Pediatric Emergency Department: Initial Findings from the Videography in Pediatric Emergency Research (VIPER) Collaborative**
[ReSS](#)
Karen J. O'Connell, Alexis B. Sandler, Matthew Leda, Benjamin T. Kerrey, Sage R. Myers, Mary Frey, Ichiro Watanabe, Richard Hanna, Aaron J. Donoghue
- 2015

- **Development of a Small Rear Facing Child Restraint System Virtual Surrogate to Evaluate CRS-to-Vehicle Interaction and Fitment**
[SAE](#)
Aditya Belwadi, Richard Hanna, Audrey Eagle, Daniel Martinez, Julie Kleinert, Eric Dahle



RELATED EXPERIENCE

Present
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2018

CHOP R User Group Steering Committee Member

[Children's Hospital of Philadelphia](#)

- Led, organized, and participated in R user classes, group talks, and seminars to encourage education and collaboration throughout the enterprise
- Assisted in teaching introductory R courses to new users throughout CHOP
- Presented on R concepts including R Markdown, API workflows, and clinical reporting to drive effective cross-displine communication

Present
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2020

R 101 for Clinicians Teaching Assistant

[Children's Hospital of Philadelphia](#)

- Supported leadership in the CHOPR User Group and community in educating clinicians around the hospital on the fundamentals of R
- Facilitated online learning and helped new users troubleshoot issues