RICHARD S. HANNA

In my role as a data analyst and engineer at CHOP, I develop solutions to drive clinical decisions and support clinical needs. The scope of my work includes pediatric cardiac arrest, endotracheal intubation, and quality improvement initiatives both within the hospital and externally at facilities around the world. 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 | 2013
M.S., Biomedical Engineering
Drexel University — Philadelphia, PA

2015 | 2013
Graduate Certificate in Engineering Management
Drexel University — Philadelphia, PA

2015 | 2010
B.S., Mechanical Engineering
Drexel University — Philadelphia, PA

- Senior Design Project: Automated Couette Flow Blood Viscometer

EXPERIENCE

Present | 2019
Data Analyst & Research Engineer
Children's Hospital of Philadelphia — Philadelphia, PA

- Developed a full data pipeline for an international collaborative
- Created data dashboards, reports, and tools to inform clinical decisions
- Led data driven projects utilizing R, Python, & MATLAB
- Consulted with external institutions to supply database solutions

2019 | 2017
Research Project Engineer
Children's Hospital of Philadelphia — Philadelphia, PA

- Cut down task completion time for various team needs by implementing automated solutions
- Analyzed patient monitoring waveforms from various devices
- Assured quality control over SQL-based database systems
- Developed a novel method for anterior/posterior chest geometry modeling

2017
Project Engineer
GS Medical USA — King of Prussia, PA

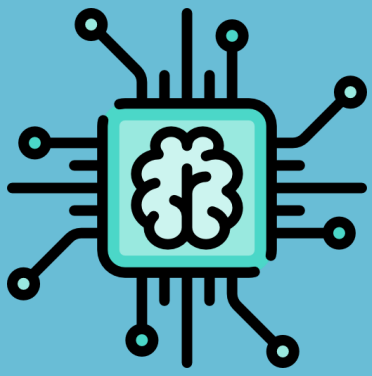
- Led R&D life cycle of multiple spinal fixation system projects
- Served as the point of contact for surgeons and customers
- Conducted mechanical testing per ASTM and ISO standards for implant QC

2017 | 2015
Associate Project Engineer
GS Medical USA — King of Prussia, PA

- Supported project leadership in design and development of implant systems
- Designed implants and instruments for spinal fixation systems
- Observed surgical cases demonstrating GS Medical product implantation

2015 | 2014
Biomechanics Engineering Researcher
Children's Hospital of Philadelphia — Philadelphia, PA

- Created a virtual surrogate model for child restraint system assessment
- Coauthored and presented publications in SAE and the Ohio State Biomechanics Syposium
- Assessed occupant motion and injury kinematics using motion capture technology



CONTACT

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github.com/rsh52
richardshanna.com
(609) 320-2923

LANGUAGE SKILLS

- R
- SQL
- Python
- MATLAB

CAD AND FE SKILLS

- ProENGINEER/Creo
- AutoDesk Inventor
- Altair Hypermesh
- Catia V5

Proficient in BI software: Tableau, Power BI, Microstrategy

CERTIFICATIONS

FE/EIT Certified by NCEES: August 30th, 2014

Made in R using the pagedown package.
Last updated on 2019-12-14.

SELECTED PUBLICATIONS & POSTERS

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 Nadkarnic 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<U+0092>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