JOHNS HOPKINS

MALONE CENTER *for* ENGINEERING *in* HEALTHCARE

MCEH Summer Internship @ Johns Hopkins Medicine

Internship title	Data Science Intern
Reports to	Sr. Director for Systems Engineering, The Johns Hopkins Hospital and Health System Armstrong Institute for Patient Safety and Quality

Internship purpose

The Data Science Intern will join the JHH/JHHS systems engineering team working to eliminate preventable harm, improve patient outcomes and experience, and enhance value in healthcare. The team applies systems engineering, data science and quality assurance methodology to achieve these aims. This internship involves the data quality systems engineering program that seeks to assure end-to-end reliability and integrity of data representing clinical care through the myriad of information technology systems, work processes, and human interactions that translate and transmit the information internally and externally. Information is then synthesized, from a wide variety of sources and methods, to provide actionable feedback to clinical teams and the foundation for system improvement.

The Data Science Intern will work with and learn from senior systems engineers, business intelligence analysts, healthcare safety and quality leaders to apply various analytical methods to large sets of data derived from clinical documentation of patient care. The intern will learn to identify, characterize and present the resulting information and insights in formats readily understandable and actionable by interdisciplinary team members and leadership audiences across the organization.

Duties and responsibilities

- Apply various analytical methods to large sets of data derived from clinical documentation of patient care.
- Identify, quantify and characterize meaningful rates, trends, incongruence, etc.
- Investigate root cause and contributing causes of data discrepancies.
- Effectively communicate work products verbally and through data products, reports and presentations
- Create a poster and present the results of the internship at the Johns Hopkins Research Symposium on Engineering in Healthcare, Nov 2020

Qualifications

- Sophomore or above in a computer science, engineering, statistics, mathematics or related field. Strong rising juniors preferred.
- Experience in working with large datasets and performing data analysis a plus.
- Engineering curiosity to identify subtle discrepancies and trends, to dive deeper into the data to understand how data system/algorithm performance may deviate from design.
- Ability to translate technical nature of an approach to non-technical audiences.
- Ability to diagram systems, functional block diagrams and technical interfaces.
- Strong interpersonal skills and ability to work as a member of an interdisciplinary team.

The successful candidate will have experience using the following software applications and/or programming languages:
Required: Excel, SQL, Python
Preferred: R, Tableau

Working conditions and physical requirements

Indoor- shared office environment
Possible exposure to clinical setting (observing workflow)
Ability to physically operate computer
May need to lift up to 20 lbs

Compensation

One academic credit for a minimum of 120hrs, flexible schedule

Anticipated Start Date

As soon as possible

Duration

Winter Intersession/ Spring, 2020
Possibility for extended internship (up to 9 months) and/or permanent employment, if there is interest on both sides

Location

The Johns Hopkins Hospital, 600 North Wolfe Street, Baltimore, MD 21287

Application Process

Email your resume and one paragraph describing what you are looking to gain from this internship to Vess Vassileva-Clarke: vclarke@jhu.edu.

Please include the name, email address and/or telephone # of your academic adviser (the faculty member who advises you).

Use Subject line "MCEH Data Science Internship, 2019 - 2020" for your email.

Position will remain open until filled. Applications received **on or before Dec 15, 2019** will be given first consideration.