

Derek Kaknes

Work Experience

Virginia Tech Center for Biostatistics & Health Data Science

September 2022

Health Data Scientist

CBHDS provides expertise in biostatistics, data science, programming, and data management to health- and medically-related research projects carried out by Virginia Tech (and beyond) investigators. CBHDS's goal is to cultivate successful and prolific long-term collaborations, support funded grant proposals, promote peer-reviewed publications, and enhance presentations at professional conferences.

- Led literature review and data analysis on the risk-factors and preventable drivers of all-cause hospital readmissions in the post-acute care setting, with particular focus on skilled nursing facilities
- Led collaboration with local health system and in conjunction with faculty from the Department of Computer Science for the development of an automated inpatient medical coding system using open-source electronic health records data and state-of-the-art natural language processing models
- Led efforts to collect, store, and analyze large-scale Transparency in Coverage data in collaboration with payer relations team at the local health system.

Certilytics, Inc.

May 2016 – July 2021

Vice President of Data Science Applications

Certilytics is a healthcare analytics company that provides big data processing, machine-learning and predictive analytics as a service for the largest health insurance companies in the United States.

- Manage a team of data science developers to implement Hadoop, Apache Spark and TensorFlow machine learning applications on a HITRUST secure cluster environment for both on-premises and public cloud deployments
- Develop, deploy and monitor a suite of data science applications that produce analytics driving business and clinical decision making for customers, impacting weekly over 100 million patient lives
- Responsible for developing and automating production-ready data science workflows combining applications in UNIX/Bash, Java/Scala, Python, R, MATLAB, and database DSLs for both SQL and NoSQL datastores
- Collaborate with clinical teams in the design of machine learning applications and develop automated reporting to monitor and review clinical implementation and efficacy
- Monitor and optimize computational performance of data science applications to reliably scale to terabyte-level performance, including system-design, computational resource allocation, and software and algorithm selection and implementation

Fidelity Investments

April 2015 – May 2016

Management Consultant, Fidelity Center of Applied Technologies (FCAT)

Prime Student Loan, Inc.

June 2012 – March 2015

Co-Founder and CEO

Jefferies & Company

June 2009 – June 2012

Investment Banking Analyst, Aerospace & Defense Group

Education

University of Virginia

September 2005 – May 2009

School of Engineering and Applied Science

B.S. Biomedical Engineering

Coursework included advanced calculus, differential equations, and non-linear dynamic systems, as well as physiology, biomechanics, and foundational biomedical laboratory techniques. Completed a Capstone Thesis on the use of statistical methods to extract predictive indicators for sleep apnea events in neonatal infants using longitudinal biometric data.