

At present, I am pursuing a PhD in computer science and a master's degree in applied mathematics and statistics from the Johns Hopkins University. My background and training lies in data management and statistical analysis of datasets that range from gigabytes to terabytes in diverse fields such as astronomy and environmental sciences.

My PhD dissertation is based on managing and maintaining data generated from multiple long-term environmental monitoring projects, operated by the sensor network group at Johns Hopkins University. I have designed and implemented an end-to-end data processing pipeline that spans multiple long-term deployments, and provides public access to environmental scientists that are using the data. Currently, my focus is on developing robust and scalable statistical methods for detecting sensor faults and spatial interpolation of data. In the past, I have worked extensively on designing practical, scalable and energy efficient solutions to deal with the problem of assigning accurate timestamps to sensor measurements. Our algorithm, referred to as Phoenix, was used to assign timestamps to measurements collected by a network deployed in a Brazilian rainforest; a project done in collaboration with Microsoft Research and the University of Sao Paulo.

I am interested in obtaining a position in a group where I can apply and enhance my knowledge in data management and analytics. In particular, I am highly motivated by real-world challenges, and believe that the analytical skills I have developed can be applied to numerous systems and processes. For example, I got a unique opportunity to analyze the health and behavior of various components of our sensor network. Using data collected from network logs, I worked on characterizing and identifying patterns and trends. This analyses led to a clearer understanding of the causes of component failures, which resulted in a redesign of our data collection subsystem, tolerant to device resets and failures.

My experiences at the Johns Hopkins University and Microsoft Research have enabled me to develop a balanced set of skills. I have worked in numerous teams, and my ability to communicate thoughts and ideas clearly is reflected in several of my peer-reviewed articles and presentations at top-level computer science conferences. I believe that with my background in programming and statistics, I will be able to bring in novel, yet practical approaches to solving problems. My resume is enclosed for your review.

Thank you for your time and consideration. I would appreciate the opportunity to discuss with you, in further detail, my experiences and how I can add value to your team. I can be reached at (240) 515-0736 or gupchup@jhu.edu

Sincerely,
Jayant Gupchup
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Enclosure: Resume