Tenure and Promotion Letter

Supraja Gurajala
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SUNY Potsdam
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Purpose of the Letter

I am extremely pleased to respond to your request for a careful appraisal of the candidacy of Dr. Supraja Gurajala for her tenure and promotion to Associate Professor at SUNY Potsdam.

Dr. Supraja Gurajala (Supraja) has been an outstanding collaborator for me since 2018. Supraja was an exemplary student in the Department of Computer Science, at Clarkson University and graduated in August 2018. Our research interactions started in the Spring of 2018, a few months before she graduated, and made great progress since then. My assessment here is based on a review of Supraja's curriculum vitae, as well as my interactions with her throughout the years as a collaborator. In my view, Dr. Gurajala has demonstrated a solid track record in her research and teaching, and at the same time made exceptional accomplishments in service to the department, university, and profession.

Evaluation of Scholarship

Supraja's main area of research is "social media sensing towards accurate prediction and analysis of events using big data from online networks". This is an important research area and the need for more research is constantly increasing. She has accomplished a number of publications during her graduate study and some of them received a high readership. Working closely with Supraja during her doctoral research, her perfectionist attitude toward work was very much apparent.

The extensive past and present professional activities of Dr. Gurajala are detailed in her CV. After her graduation, an exciting development of our collaborative interaction was working on interdisciplinary research projects on air quality monitoring. These projects have started in collaboration with Prof. Suresh Dhaniyala, a distinguished figure in the field of aerosol science, Prof. Shantanu Sur from the Department of Biology at Clarkson University, and myself. Here we aim to predict air quality information at a high precision out of noisy data received from multiple resources such as low-cost sensors, satellites, and social media. We are concentrating on developing theoretical models to combine various data sets in order to attain predicted accuracy on par with specialized, expensive air quality monitoring stations. With a number of graduate and undergraduate students, we are examining the data mining techniques and statistical decision-making procedures that could be most useful. Related to this, Supraja participated in the May 2019 workshop on "Bayesian Decision-making and Applications." To further our understanding of air quality data analysis, we also took part in teams of "R" and "Python" users' "Clarkson - SRIHR-ICMR Indo-US Training Workshop on Low-Cost Air Quality Sensors and Related Data Analytics" (August 2019).

The research team also looked into how air quality and other demographic characteristics might possibly affect the epidemiology of the disease (infection and fatality) when the COVID-19 pandemic hit the world in early 2020. A manuscript resulting from this direction was published in the "Science of the Total Environment", an international, multidisciplinary journal of natural sciences that publishes ground-breaking, hypothesis-driven, and highly influential studies on the total environment. Additionally, the graduate students working with us presented their work at numerous regional, national, and international conferences, such as the Probability and Statistics Day at UMBC and the Air Sensor International Conference (ASIC) at UC Davis.

Comment on Publications

Dr. Gurajala and I worked on three research projects and a grant application to date. One of our works has already been published (listed below), one is submitted to chemRxiv, and the third one is getting ready for submission.

Publications with Dr. Supraja Gurajala

3. Dinushani Senarathna*, Vijay Kumar*, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur, Sumona Mondal: "Effects of distance and sensor numbers in correction models for accurate $PM_{2.5}$ estimation from low-cost sensors", in preparation.

2. Vijay Kumar*, Dinushani Senarathna*, Supraja Gurajala, William Olsen, Shantanu Sur, Sumona Mondal, Suresh Dhaniyala: "Understanding the source components captured by the Purple Air Network", submitted to ***ChemRxiv*** DOI

1. Sumona Mondal, Chaya Chaipitakporn*, Vijay Kumar*, Bridget Wangler**, Supraja Gurajala, Suresh Dhaniyala, Shantanu Sur (2022): "COVID-19 in New York state: Effects of demographics and air quality on infection and fatality", ***Science of the Total Environment*** DOI

Evaluation of Teaching

Supraja has contributed significantly to teaching while working at SUNY Potsdam. In the last six years, Supraja has instructed nine different courses, three of which were brand-new offerings at SUNY Potsdam. As the industry itself changes frequently, she created new courses based on what was needed. Supraja created a specialization in data analytics for the BS in computer science, where students enrolled in these three courses: Machine Learning, Database Systems, and Data Analysis and Visualization in order for this concentration to appear on their transcripts. I think these courses are highly relevant and will provide students with a distinct advantage in the job market.

Evaluation of Service

Supraja is involved in both professional and academic services. She unequivocally supports the undergraduate computer science curriculum at SUNY Potsdam as well as undergraduate research. She has a long history of exemplary service throughout her professional life, be it research presentations by her or by her students. Her contributions to the department, college, and university include those related to education, public service, and professional communities.

Summary

In summary, I feel Dr. Gurajala is one of those individuals who are gifted in working across the boundary of a discipline and thus serves as an excellent ambassador for a program. She has an easygoing demeanor, which in my opinion, is an essential personality trait for working on multidisciplinary research teams. In conclusion, Supraja has shown a high potential for success in both research and teaching throughout her time at SUNY Potsdam. Such a balance of abilities, in my opinion, will be a great help to the Department and the University. I am confident that Dr. Supraja Gurajala is fully deserving of tenure at SUNY Potsdam.

Thank you for your consideration of this recommendation. If you have any further questions or need additional information, please do not hesitate to contact me.

** represents the undergraduate student, * represents the graduate student.

Signature