



SDSU
presents
MS Computer Science
THESIS DEFENSE

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Rohan Rampuria

*Proteome Cloud- Interactive Big Data Application
For Proteomics Using Cloud Computing*

Abstract

“Proteome Cloud” is an interactive big data application for storage of proteomics data over a cloud using Amazon Web Services. This application uses AWS’s Elastic Compute Cloud (also known as EC2) for hosting this web application and providing it with resizable computing capacity over the cloud. For storage and archiving of data, we have used AWS’s Simple Storage Service (also known as S3). For projects or experiments, once archived, users cannot perform any actions on them, but once they are restored back, then they can continue working on them. All mass spectrometry-based proteomics laboratories can use this platform to securely upload their projects to a cloud and share effectively among their fellow lab scientists. This platform also provides the capability of sharing the data with other laboratories as collaboration in this field is prevalent, and the project’s success depends on the collaboration. They can also upload their results and visualize them over this platform using an appropriate result file format. Basically, this is a tool for taking the burden off from your local computer and putting it over to a cloud.

Thesis Committee

Carl Eckberg, Thesis Chair, Department of Computer Science
Alan Riggins, Department of Computer Science
John Love, Department of Chemistry & Biochemistry