

## Keynote Speakers 2

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### Data Science in R: Software and Implementations

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#### Abstract:

Nowadays, the flood of data can no longer be dammed so that it inundates every corner of our daily activities. For example, we generate data on mobile phone, social media, sensors, applications, etc. Because of these phenomena, data science becomes an emerging field to handle and analyze data. In this research, we proposed two following tasks: to develop R packages/software libraries and to implement data-analysis methods to tackle problems in bioinformatics. In the first objective, we have built four R packages: "frbs", "RoughSets", "gradDescent", and "metaheuristicOpt" that implements fuzzy sets, rough sets, gradient descent, and meta-heuristics optimization algorithms, respectively. These packages can be found in the Comprehensive R Archive Network (CRAN) and is open source software. Moreover, implementations of the data-analysis methods (e.g., Knuth-Morris-Pratt and random projection) in bioinformatics are presented. The implementations utilize R packages included in parallel computing/high performance computing so that the computation cost of experiments can be reduced.

#### Biography:

*Lala Septem Riza received PhD in Computer Science from Universidad de Granada, Spain in 2015. Right now, he works in Departement of Computer Science Education, Universitas Pendidikan Indonesia, Indonesia. He is teaching machine learning, big data platform, and statistical data science. His research interests are in machine learning, data science, and educations.*