

## Curriculum Vitae

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### CONTACT INFORMATION

**Swarup Ranjan Behera**  
Senior Data Scientist  
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### RESEARCH INTERESTS

I am interested in the research work related to machine learning, data mining, and application of these techniques. In particular *natural language processing* and *sport data mining*.

### EDUCATION

**Indian Institute of Technology Guwahati**, Guwahati, India

**Ph.D.**, Computer Science and Engineering, July 2015 - Sept 2021

- Thesis: *Learning Player-specific Strategies Using Cricket Text Commentary*.
- Supervisor: Dr. Vijaya Saradhi Vedula

**M.Tech.**, Computer Science and Engineering, **7.99** CPI, July 2013 - June 2015

- Project: *Spectral Clustering Using Convex and Constrained Settings*.
- Supervisor: Dr. Vijaya Saradhi Vedula

**Veer Surendra Sai University of Technology, Burla**, Odisha, India

**B.Tech.**, Computer Science and Engineering, **8.30** CPI, July 2008 - June 2012

- Project: *A Novel Ontology Based Entity Relationship Model*.
- Supervisor: Dr. Rakesh Mohanty

### EXPERIENCE

**Reliance Jio Platforms Ltd**, Hyderabad

**Senior Data Scientist**, Reliance Jio AI-CoE, Sept 2021 - Present

- Project: *Sports, Call-center, and Bio-medical Speech and Text Analysis*.
- Supervisor: Dr. Balakrishna Reddy P

**Data Science Intern**, Reliance Jio AI-CoE, June 2021 - August 2021

- Project: *Sports and Call-center Text Processing and Analysis*.
- Supervisor: Dr. Balakrishna Reddy P

### PUBLICATIONS

**S. R. Behera** and V. S. Vedula, *Learning Strength and Weakness Rules of Cricket Players using Association Rule Mining*, In proceedings of the 8th Workshop on Machine Learning and Data Mining for Sports Analytics (MSLA21), ECML/PKDD Workshop, Virtual, 2021.

**S. R. Behera**, *Performance Analysis of Batsman against Spin Bowling and Fast Bowling in Cricket*, Ohio State Sports Analytics Association Conference (OSUSAAC20), Columbus, United States, 2020. (**Best Research Award**)

**S. R. Behera** and V. S. Vedula, *Video Data Do More. Tracking Data Do Much. Text Commentary Data Do Much More*, Carnegie Mellon Sports Analytics Conference (CMSAC20), Pittsburgh, United States, 2020.

**S. R. Behera** and V. S. Vedula, *Stats Aren't Everything; Learning Strengths and Weaknesses of Cricket Players*, In proceedings of the 7th Workshop on Machine Learning and Data Mining for Sports Analytics (MSLA20), ECML/PKDD Workshop, Ghent, Belgium, 2020.

**S. R. Behera** and V. S. Vedula, *Mining Temporal Changes in Strengths and Weaknesses of Cricket Players Using Tensor Decomposition*, In proceedings of the 28th European Symposium on Artificial Neural Networks, Computational Intelligence and Machine Learning (ESANN20), Bruges, Belgium, 2020.

**S. R. Behera**, P. Agrawal, A. Awekar and V. S. Vedula, *Mining Strengths and Weaknesses of Cricket Players Using Short Text Commentary*, 2019 18th IEEE International Conference On Machine Learning And Applications (ICMLA19), Boca Raton, FL, USA, 2019.

#### ACADEMIC PROJECTS

**Spectral Clustering Using Convex and Constrained Settings:** Proposed a framework that incorporates pairwise constraints into semidefinite spectral clustering. Extended it from passive learning to active learning and self-taught learning settings. Used MATLAB. (Jul 2013 - Apr 2015, IIT Guwahati)

**Virtual Learning Environment for Chemistry Department:** Implemented an e-learning education system based on the web that models conventional in-person education by providing equivalent virtual access to classes, class content, tests, homework, grades, assessments. Used HTML, PHP, JavaScript, and MySQL. (May 2014 - Jun 2014, IIT Guwahati)

**Community Detection Using Greedy Clique and Plex Algorithm:** Implemented a community detection algorithm - Greedy Clique Expansion (GCE). Limitations of using GCE are identified and proposed an algorithm, Greedy Plex Expansion, a variant of GCE which uses plexes in place of cliques. Used C++. (Jan 2014 - Apr 2014, IIT Guwahati)

**Web Search Engine:** Built a web search engine that searches for 1.2 million webpages using the page-rank algorithm and suffix array data structure. Used Python, HTML, PHP, and JavaScript. (Jul 2013 - Dec 2013, IIT Guwahati)

#### TEACHING EXPERIENCE

##### Teaching Assistant, IIT Guwahati, July 2013 - Dec 2020

Database Lab	Spring-2015, Spring-2016, Spring-2020, Fall-2020
Computing Lab	Spring-2017, Spring-2018, Spring-2019
Software Engineering	Fall-2018, Fall-2019
Design and Analysis of Algorithms	Fall-2017
Computer Vision using Machine Learning	Fall-2016
Discrete Mathematics	Fall-2015
Data Structures Lab	Fall-2014
Probability and Linear Algebra	Spring-2014
Data Communication	Fall-2013

#### TECHNICAL SKILLS

Programming Languages: Python, C  
 Statistical Tools: R  
 Computational Suite: MATLAB  
 Database: MySQL, MongoDB  
 ML/DL/NLP Libraries: NumPy, SciPy, Scikit-learn, Pandas, TensorFlow, PyTorch, NLTK, Gensim, transformers  
 Visualisation Tools: Matplotlib, Plotly, Gnuplot  
 Other Tools: R Shiny, Latex, Beamer, Microsoft Office, Inkscape

#### ACHIEVEMENTS

##### Grants and Fellowships

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| • MHRD, Government of India Fellowship for PhD   | July 2015 - June 2019 |
| • MHRD, Government of India Fellowship for MTech | July 2013 - June 2015 |
| • Odisha State Government Scholarship for BTech  | July 2008 - June 2012 |
| • National Rural Talent Scholarship              | July 2001 - June 2004 |

### **Academic**

- Best research award at OSUSAAC 2020, Columbus, USA.
- All India rank 696 (99.68 percentile) in GATE 2013.
- Secured the third position in codezam, in Srujan 2011 at VSSUT, Burla.

### **Extra Curricular**

- Organized Advaya 2015, PG cultural festival at IITG.
- Technical officer in the student gymkhana council 2014-2015 at IITG.
- Best departmental act award in Advaya 2014, PG cultural fest. at IITG.
- Gold medal for short movie-making in Film Festival 2012 at VSSUT, Burla.

### **COMMUNITY SERVICES**

**Program Committee Member:** ECML-PKDD 2020

**Reviewer:** IEEE VIS 2020, IEEE VIS 2021

**Volunteer:** ICVGIP 2016

### **REFERENCES**

#### **Dr. Vijaya Saradhi Vedula, Ph.D**

Associate Professor,  
Department of CSE  
Indian Institute of Technology Guwahati  
Guwahati, Assam, India 781039  
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#### **Dr. Ashish Anand, Ph.D**

Associate Professor,  
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#### **Dr. Amit Awekar, Ph.D**

Assistant Professor,  
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#### **Dr. Rakesh Mohanty, Ph.D**

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