Curriculum Vitae

CONTACT
INFORMATION

Swarup Ranjan Behera
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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 *text mining* and *sport data mining*.

EDUCATION

Indian Institute of Technology Guwahati, Guwahati, India

Ph.D., Computer Science and Engineering, July 2015 - Present (Thesis Submitted)
- 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

PUBLICATIONS

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, *Batsman's Kryptonite: Learning Weakness and Strength Rules of Cricket Players using Association Rule Mining*, Carnegie Mellon Sports Analytics Conference (CMSAC20), Pittsburgh, United States, 2020.

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
Machine Learning Libraries: Numpy, Scipy, Scikit-learn, Pandas
Deep Learning Libraries: TensorFlow, Theano, Gensim
Visualisation Tools: Matplotlib, Plotly, Gnuplot
Other Tools: R Shiny, Latex, Beamer, Microsoft Office, Inkscape

ACHIEVEMENTS

Grants and Fellowships
• 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

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,
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Dr. Ashish Anand, Ph.D
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