



Divya Kumar

Curriculum Vitae

Address F-13, Design Centre, Computer Science & Engineering Department,
Motilal Nehru National Institute of Technology Allahabad,
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APPOINTMENTS

Assistant Professor Nov 2012-present
Motilal Nehru National Institute of Technology Allahabad

- Teaching and guiding under-graduate and post-graduate students in the Department of Computer Science & Engineering.
- Carrying out research and development activities in the institute.

Senior Software Developer July 2011- Oct 2012
NetApp India Ltd.

- Developed the technology in Dedupe and Compression Team, that enables to store data efficiently on the disks via eliminating the redundancy thereby cutting the space requirements.

Lecturer Aug 2008- July 2009
College of Engineering & Technology, Moradabad

- Teaching and guiding under-graduate students in the Department of Computer Science & Engineering.

EDUCATION

P. hD. Sept 2016
Motilal Nehru National Institute of Technology Allahabad
“Co-variance Based ABC Variants and Their Applications”
Thesis advisor: Dr. K. K. Mishra (The University of Missouri–St. Louis)

M. Tech. (Gold Medallist) 2009-2011
Motilal Nehru National Institute of Technology Allahabad
“Application of Multi-Objective Genetic Algorithms in QoS Based Routing & E-Mail Security”
Thesis advisor: Dr. A. K. Misra (MNNIT Allahabad)

B. Tech. (Gold Medallist) 2004-2008
U. P. Technical University, Lucknow
Specialization: Computer Science & Engineering

PROJECTS COMPLETED/ONGOING

- **Smart Note Taker**, *completed*, a product that helps and satisfies the needs of the people in today's technologic and fast life. With the help of Smart Note Taker, people will be able to write notes on air, while being busy with their work. Handwritten notes will be captured and displayed. The project employs image analysis and pattern matching techniques.
- **Stock Market Sentiment Analysis**, *completed*, the objective of the project is to establish a correlation between sentiment parameters present in social networks, blogs and news, at particular points of time and stock market movement during the same time slots. (Funded by TEQIP, phase-2)
- **Gauging Stress, Anxiety and Depression Levels in Students**, *completed*, College life is one of the most stirring and rewarding times in any scholar's life, but it can also be a time when a student has to deal with mental illness in terms of Stress, Anxiety, Anger, Depression or Suicidal Thoughts. In this project, we have developed an online service which can help students in maintaining their positive mental health through researched questionnaires. (Funded by DIC, MHRD)
- **Study of Stabilizing Parameters in Dynamically Stable Robot**, *ongoing*, the objective of the project is to establish a credible and mature understanding of postural stability in quadruped robot by exploring various aspects of quadruped robots like joints, degree of freedom, centre of mass, centre of gravity & centre of pressure. The project encompasses various broad sub areas like Image Processing for detection of obstacles, robot stability and adjusting torque on varying load, robot postural balance in case of external push or pull. (Funded by Institute Research Grant, MNNIT Allahabad)

PUBLICATIONS

14. Divya Kumar and K. K. Mishra, "[Portfolio optimization using novel co-variance guided Artificial Bee Colony algorithm](#)" *Journal of Swarm and Evolutionary Computation (SCI Indexed)*, (2016).
13. Divya Kumar and K. K. Mishra, "[Multi-objective optimization using co-variance guided Artificial Bee Colony](#)" *Journal of Information Science and Engineering (SCI Indexed)*, (2016).
12. P. Bhatia, K. K. Mishra, Divya Kumar and Anoj Kumar, "[An Improved-Time Varying Acceleration Coefficient Based PSO](#)" *The Journal of Multiple-Valued Logic and Soft Computing (SCI Indexed)*, (2016).
11. Divya Kumar and K. K. Mishra, "[Artificial Bee Colony as a Frontier in Evolutionary Optimization: A Survey](#)" *2016 International Conference on Computer, Communication and Computational Sciences, Springer International Publishing*, (2016).
10. Divya Kumar and K. K. Mishra, "[The Impacts of Test Automation on Software's Cost, Quality and Time to Market](#)" *International Conference on Communication, Computing and Virtualization (ICCCV), Procedia Computer Science, Elsevier Publishing* (2016).
9. Kunal Keshwani, Piyush Agarwal, Divya Kumar and Ranvijay, "[Prediction of Market Movement of Gold, Silver and Crude Oil Using Sentiment Analysis](#)" *2016 International Conference on Computer, Communication and Computational Sciences, Springer International Publishing*, (2016).

8. Shashank Gupta, Divya Kumar and K. K. Mishra, “[Truss Structure Optimization Using Co-variance Based Artificial Bee Colony Algorithm](#)” *2016 7th International Conference on Swarm Intelligence, Lecture Notes in Computer Science, Springer International Publishing*, (2016).
7. Arnima Chaurasia, Shailendra Pratap Singh and Divya Kumar, “[Emotion Recognition on the Basis of Eye and Mouth](#)” *2016 2nd International Research Symposium on Computing and Network Sustainability, Lecture Notes in Networks and Systems, Springer International Publishing*, (2016).
6. Priyanka Paliwal and Divya Kumar, “[Green IT and Environmental Sustainability Issues](#)” *2016 2nd International Conference on ICT for Sustainable Development, Lecture Notes in Networks and Systems, Springer International Publishing*, (2016).
5. Shashank Srivastava, Divya Kumar and S. Chandra, “[Trust Analysis of Execution Platform for Self Protected Mobile Code](#) ” *2015 4th IEEE International Conference on Advances in Computing, Communications and Informatics (ICACCI), Kochi, India*, (2015).
4. Divya Kumar and K. K. Mishra, “[Incorporating logic in Artificial Bee Colony \(ABC\) algorithm to solve first order logic problems: The logical ABC](#) ” *2015 7th IEEE International Conference on Knowledge and Smart Technology (KST), Thailand*, (2015).
3. A. Tripathi, Divya Kumar, K. K. Mishra and A. K. Misra, “[GA-EAM Based Hybrid Algorithm](#) ” *International Conference on Intelligent Computing, Lecture Notes in Computer Science, Springer International Publishing*, (2014).
2. Divya Kumar, D. Kashyap, K. K. Mishra and A. K. Misra, “[Routing Path Determination Using QoS Metrics and Priority Based Evolutionary Optimization](#)” *13th IEEE International Conference on High Performance Computing and Communications (HPCC), Canada*, (2011).
1. Divya Kumar, D. Kashyap, K. K. Mishra and A. K. Misra, “[Security vs cost: An Issue of Multi-Objective Optimization for Choosing PGP Algorithms](#)” *IEEE International Conference on Computer and Communication Technology (ICCCCT), MNNIT, Allahabad*, (2010).

INVITED TALKS

7. **Optimization Techniques**, in Self-financed Short Term Course on Numerical and Optimization Techniques (NOT-2016), MNNIT Allahabad, (September 2016).
6. **Introduction to Algorithms**, in Dr. APKAJ TU sponsored, Faculty Development Program on Data Structures and Algorithms, United Group of Institutions, Allahabad, (July 2016).
5. **Client Server Architecture & Web Servers**, in Self-financed Summer Training Program on Emerging Trends in Computer Science, (ETCS), MNNIT Allahabad, (June 2015).
4. **Multi-objective Optimization & Artificial Bee Colony**, in Workshop on Advances in Optimization Techniques and their Applications in Power Systems, (WAOTAPS), KNIT Sultanpur, (Feb 2015).

3. **Nature Inspired Algorithms & Optimization**, in Workshop on Nature Inspired Algorithms and its Application in Software Engineering, (NIASE), MNNIT Allahabad, (Oct 2014).
2. **Multi-objective Optimization & Genetic Algorithms**, in Workshop on Application of Soft Computing Methods in Engineering, (ASCME), MNNIT Allahabad, (May 2014).
1. **Storage Efficiency & Data Deduplication: A Tutorial**, in International Conference on Computer and Communication Technology, (ICCCT), MNNIT Allahabad, (Sept 2012).

CONFERENCES/WORKSHOPS ORGANIZED

13. **Co-coordinator**, RnC MNNIT Allahabad sponsored, workshop on Network Simulation, (WNS), Sept 28-Oct 2, 2016, MNNIT Allahabad.
12. **Co-coordinator**, Self-financed, Summer Training Program on Emerging Trends in Computer Science, (ETCS), June 13-July 8, 2016, MNNIT Allahabad.
11. **Program Co-Chair**, 6th IEEE International Conference on Computer & Communication Technology, Sept 25-27, 2015, MNNIT Allahabad.
10. **Program Co-Chair**, 6th IEEE International Conference on Computer & Communication Technology, Sept 25-27, 2015, MNNIT Allahabad.
9. **Treasurer**, Self-financed, Summer Training Program on Emerging Trends in Computer Science, (ETCS), June 8-July 5, 2015, MNNIT Allahabad.
8. **Workshop Coordinator**, NMEICT-MHRD sponsored, Workshop on Introduction to Design of Algorithms, May 25-30, 2015, MNNIT Allahabad.
7. **Treasurer**, TEQIP-II sponsored, Workshop on Nature Inspired Algorithms & Optimization (NIASE-2014), Oct 07-11, 2014, MNNIT Allahabad.
6. **Faculty Coordinator**, TEQIP-II sponsored, Workshop for Review & Update the Curriculum of PG Courses and Mapping with Mission & Vision (WRUCPG-2014), Sept 29, 2014, MNNIT Allahabad.
5. **Secretary**, 5th IEEE International Conference on Computer & Communication Technology, Sept 26-28, 2014, MNNIT Allahabad.
4. **Course Co-Coordinator**, MHRD Sponsored, Workshop on NMEICT Awareness, Aug 29-30, 2014, MNNIT Allahabad.
3. **Faculty Coordinator**, TEQIP-II sponsored, Short Term Course on MATLAB and LaTeX: Simulation with Documentation (SIMDOC-2014), June 30-July 05, 2014, MNNIT Allahabad.
2. **Course Co-Coordinator**, TEQIP-II sponsored, Workshop on Information Security and Computer Forensics (WISCF-2014), June 23-28, 2014, MNNIT Allahabad.
1. **Organizing Co-Chair**, 4th IEEE International Conference on Computer & Communication Technology, Sept 20-22, 2013, MNNIT Allahabad.

THESES SUPERVISED

11. Shashank Gupta – M.Tech. (2016) *“Bridge Structure Optimization Using Swarm Intelligence”* MNNIT Allahabad.
10. Shailendra P Singh – M.Tech. (2016) *“Meta-heuristic Algorithms for State Machine Minimization”* MNNIT Allahabad.
9. Arnima Chaurasia – M.Tech. (2016) *“Human Emotion Recognition: An Empirical Study”* Banasthali University, Jaipur.
8. Manoj Kumar Pal – M.Tech. (2015) *“Meta-heuristic Based Optimized Floding of Peptides”* MNNIT Allahabad.
7. Sandeep Kumar Rao – M.Tech. (2015) *“Improved Continued Fraction Algorithm for Generalized Packing Problem”* MNNIT Allahabad.
6. Sunil Kumar Singh – M.Tech. (2015) *“ABC Based Optimization of Trusses & Space Structures Under Constraints”* MNNIT Allahabad.
5. Vinay Kumar Verma – M.Tech. (2015) *“Optimization of Incompletely Specified Finite State Machine Using Evolutionary Algorithms”* MNNIT Allahabad.
4. Prince Bhatia – M.Tech. (2014) *“PSO Based Software Effort Estimation”* MNNIT Allahabad.
3. Ram Kripal Mishra – M.Tech. (2014) *“Crowd Localization Through Surveillance Camera”* MNNIT Allahabad.
2. Suraj Deb Barma – M.Tech. (2014) *“Localization of Thyriod Cartilages for Human Behavior Detection”* MNNIT Allahabad.
1. Shivangi Srivastav – M.Tech. (2014) *“Role of Non-functional Requirements in Early Estimation of Software Effort Complexity”* Banasthali University, Jaipur.

SYNERGISTIC ACTIVITIES

- Play synthesizer.
- Member, IEEE.
- Member, various departmental committees.
- Reviewer for CUBE, ICCCT, AMIAMS, IC4S.
- Website & MIS coordinator, TEQIP-II at institute level.

TEACHING

@ MNNIT Allahabad:

- **Spring 2013:**
 - 1) Computer Based Numerical Analysis and Statistical Techniques
 - 2) Unix & Shell Programming
- **Fall 2013:**
 - 1) Design & Analysis of Algorithms

- **Spring 2014:**
 - 1) Analysis of Algorithms
- **Fall 2014:**
 - 1) Analysis of Algorithms
 - 2) Topic in Computer Engineering
- **Spring 2015:**
 - 1) Analysis of Algorithms
- **Fall 2015:**
 - 1) Analysis of Algorithms
 - 2) Topic in Computer Engineering
- **Spring 2016:**
 - 1) Analysis of Algorithms
 - 2) Advanced Algorithms
- **Fall 2016:**
 - 1) Analysis of Algorithms
 - 2) Topic in Computer Engineering

@ College of Engineering & Technology, Moradabad:

- **Fall 2008:**
 - 1) Design & Analysis of Algorithms
 - 2) Web Technologies
- **Spring 2009:**
 - 1) Object Oriented Systems & Java

I hereby declare that all the information given is correct to the best of my knowledge.

Place:

Date:

Divya Kumar