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Research Publications

- **Sharma, L.**, Chellapilla, V.L. & Chellapilla, P (2023). Socio-inspired evolutionary algorithms: a unified framework and survey. *Soft Computing* 27(19): 14127–14156. DOI: `https://doi.org/10.1007/s00500-023-07929-z`

- **Sharma, L.**, Chellapilla, V.L. & Chellapilla, P. "Improved Imperialist Competitive Algorithm for Selection Problems in Combinatorial Optimization." (*Communicated to ICTACT Soft Computing*).

- **Sharma, L.**, Chellapilla, V.L. & Chellapilla, P. "Vedic Society Optimizer (VSO): A new socio-inspired metaheuristic for real-world engineering optimization." *(Communicated to Advances in Engineering Software)*.

- **Laxmikant**, Vasantha Lakshmi, C., Patvardhan, C. (2023). QKPICA: A Socio-Inspired Algorithm for Solution of Large-Scale Quadratic Knapsack Problems. In: Singh, P., Singh, D., Tiwari, V., Misra, S. (eds) *Machine Learning and Computational Intelligence Techniques for Data Engineering* (pp. 695-708). *Lecture Notes in Electrical Engineering*, vol 998. Springer, Singapore. DOI: `https://doi.org/10.1007/978-981-99-0047-3_59`

- **Sharma, L.** & Vasantha Lakshmi, C. & Patvardhan, C. (2023). Design of optimal trusses using novel Socio-inspired Evolutionary Algorithm. *International Conference on Recent Advancement and Innovation in Engineering & Technology*, Lucknow.

- Singh, S., **Laxmikant**, Chellapilla, V.L. & Chellapilla, P. (2024). "Read aloud text in Indian languages with NAO Robot." *6th Int. Conf. on Dayalbagh (Art) Science (& Engineering) of (Evolutionary/Re-Evolutionary) Consciousness (DSC)*.

Talks and Presentations

- **Socially-inspired Evolutionary Algorithms** in One-Day UGC-SAP Seminar on "Advances in Nano and Bio Sciences," March 27, 2019, Department of Physics and Computer Science, Dayalbagh Educational Institute (DEI), Agra, India.

- **Educational applications of NAO Robot** in One-Day National Online Workshop on "Fundamentals of Artificial Intelligence and Its Applications in Education," December 28, 2020, Centre for Artificial Intelligence in Education (CAIE), School of Education, Dayalbagh Educational Institute (DEI), Agra, India.

Awards and Scholarships

- **UGC Junior Research Fellowship (JRF)**: July 2019 – July 2022

- **UGC Senior Research Fellowship (SRF)**: July 2022 – July 2024

Academic Contributions

- Designed and developed the official LaTeX thesis template for Dayalbagh Educational Institute, enabling standardized formatting for MSc and PhD thesis submissions across departments.

- Created display posters for the department highlighting faculty, infrastructure, and research achievements; these are showcased on departmental boards and used during official visits.

- Assisted junior students and peers with thesis formatting, referencing (BibTeX), and technical documentation using LaTeX.

- Maintained and organized the research lab infrastructure during PhD, ensuring proper functioning of systems, software environments, and computing resources.
- Provided technical support to lab members, including setup of simulation tools, programming environments, and research-related software (e.g., MATLAB, Python, LaTeX).
- Guided B.Tech and B.Sc. (Computer Science) students in the development and deployment of their academic and final-year projects.

Teaching Experience

Apr 2019 – Mar 2024	**Teaching Assistant**
	Dayalbagh Educational Institute, Agra
	Conducted undergraduate lab sessions and tutorials in Computer Science. Taught courses in C Programming and Data Structures. Assisted faculty with student evaluations.
Robotics Involvement:	Programmed and operated the NAO humanoid robot for educational demonstrations and research projects involving speech, motion, and interaction.
Jan 2017 – Feb 2018	**Teacher (Computer Science)**
	Lord Krishna Institute Of Education, Mathura, UP
	Taught Computer basics to D.El.Ed (Diploma in Elementary Education) students.

Work Experience

Apr 2016 – Nov 2016	**Jr. Android Developer**
	VCareAll Solutions Pvt. Ltd., New Delhi
	Developed 6 Android applications independently and contributed to 8 additional projects. Recognized with the *Star of the Month* award in the final month of tenure.

Education

Mar 2018 – *present*	**Ph.D. in Computer Science** (Thesis Submitted)
	Dayalbagh Educational Institute, Agra
Topic:	**Quantum-inspired Vedic Society Algorithms**
Interests:	Evolutionary Computation, Soft Computing, Quantum Computing, Socio-inspired Evolutionary Computation, Combinatorial optimization
Aug 2014 – May 2016	**Master of Computer Applications (MCA)**
	Dr. A.P.J. Abdul Kalam Technical University, Lucknow
Projects:	Two major academic projects completed
Placement:	Campus selection as **Jr. Android Developer**
Grade:	76.85%
Aug 2011 – May 2014	**B.Sc. in Computer Science**
	Dr. Bhimrao Ambedkar University, Agra
Grade:	59.27%
Aug 2009 – Mar 2011	**Intermediate (UP Board)**
Grade:	76.20%
July 2008 – Mar 2009	**High School (UP Board)**
Grade:	64.83%

Technical Skills

Programming languages:	C/C++, Java, JavaScript, Python, MATLAB
Web development:	HTML5, CSS3
Tools & Environments:	Docker, Qt Creator, LaTeX, gnuplot, MS Office
IDEs used:	Android Studio, Visual Basic Studio, TeXstudio, CLion, PyCharm, MATLAB

Languages

English:	Proficient
Hindi:	Native
Sanskrit:	Intermediate

Interests and Activities

Academic Interests:	Computer Science, Programming, Quantum Computing, Sanskrit, Mathematics, Electronics, and Literature
Hobbies:	Reading, playing chess, and solving logical puzzles like the Rubiks Cube
Personal Passion:	Enthusiastic about exploring emerging technologies and using computing tools for research, learning, and problem-solving

Referees

- **Prof. Patvardhan Chellapilla**
  Director, Dayalbagh Educational Institute (DEI), Agra
  Dean, Faculty of Engineering
  Professor & Head, Department of Electrical Engineering
  Email: cpatvardhan [at] dei.ac.in

- **Prof. Vasantha Lakshmi Chellapilla**
  Professor, Department of Physics and Computer Science
  Dayalbagh Educational Institute (DEI), Agra
  Email: vasanthalakshmi [at] dei.ac.in

- **Dr. Prem Prakash Vuppuluri**
  Assistant Professor, Department of Electrical Engineering
  Dayalbagh Educational Institute (DEI), Agra
  Email: vpremprakash [at] dei.ac.in