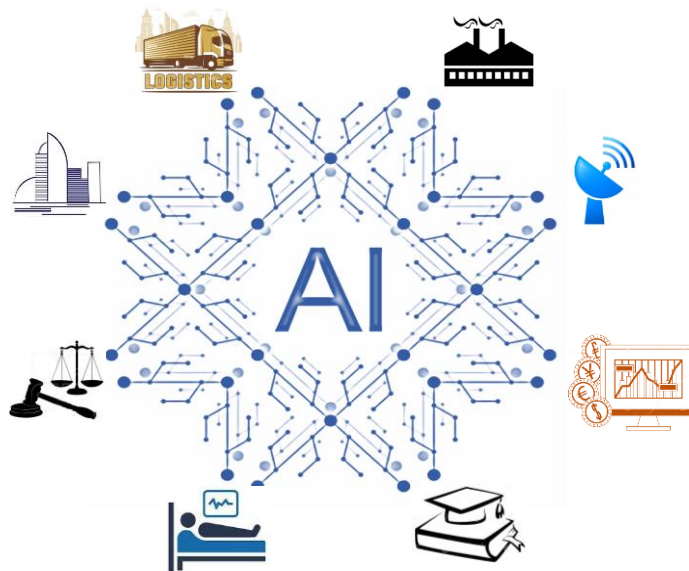


5 Days FDP on AI for All



Organized by

Institute of Artificial Intelligence

Dr Vishwanath Karad MIT World peace University, Pune, India

The recent era of Artificial Intelligence (AI) has roots back in 1956 when the term AI was first coined by Dr John McCarthy in a summer workshop at the Dartmouth College, Hanover, USA. As the workshop was quite successful, later several leading universities and computer industries in USA, Japan, Germany and UK invested heavily in understanding, development of the methodologies and applications of AI. The notable inventions are *Eliza* by Joseph Weizenbaum at Massachusetts Institute of Technology, Expert System such as *MYCIN* by Edward Shortliffe at Stanford University, *Genetic Algorithms* by Dr John Holland at University of Michigan. However, the most noteworthy contribution to the today's development in AI all over the world is through '*Fifth Generation Computer Project*' by Japan which was started in the decade of 1980. The outcome of the project is not just the inventions and innovations, but most importantly thousands of bright AI engineers, programmers, technicians, managers and enablers are made available for the entire world. Since then, AI has been instrumental in almost every fundamental as well as application-based research associated with pharmaceutical, banking & finance, agriculture, food processing, fashion, crime prevention, smart homes, traffic control, wild life conservation, military, disaster management, healthcare, robotics, manufacturing, sports, education, human resource, pollution control, politics, etc.

In order to be a driver and contributor in this direction, the MIT World Peace University, Pune (MITWPU), organizes a five days Faculty Development Program (FDP) entitled '**AI for ALL**' in online mode. The FDP intends to throw light on the AI concepts, formulations, applications, etc. The elite and active researchers in AI from all over the world have been invited.

Schedule

Monday, November 22, 2021

2.00 to 3.30PM

Dr Amir H Gandomi

Topic: Evolutionary Intelligence in Civil Engineering

4.00 to 5.30PM

Dr E S Gopi

Topic: Artificial Intelligence for Agriculture Applications

Tuesday, November 23, 2021

2.00 to 3.30PM

Dr Ganesh Krishnasamy

Topic: Advances in Artificial Intelligence and Data Science

4.00 to 5.30PM

Mr Aniket Nargundkar

Topic: Resource Planning & Allocation using AI-based Techniques

Wednesday, November 24, 2021

2.00 to 3.30PM

Ms Apoorva Shastri

Topic: Multi-Cohort Intelligence (Multi-CI) Algorithm for Solving Advanced Manufacturing Process Problems

4.00 to 5.30PM

Dr Kaushik Das Sharma

Topic: Intelligent L1 Adaptive Control: A Fuzzy & Metaheuristics Based Approach

Thursday, November 25, 2021

2.00 to 3.30PM

Dr Ali Husseinzadeh Kashan

Topic: Sports Inspired Metaheuristic Algorithms

4.00 to 5.30PM

Dr Mohammed El-Abd

Topic: Cooperative Co-evolution – Fine Tuning and Applications

Friday, November 26, 2021

2.00 to 3.30PM

**Dr Magdalene Marinaki
&**

Dr Yannis Marinakis

Topic: Swarm Intelligence Algorithms in Vehicle Routing Problems

4.00 to 5.30PM

Dr Anand J Kulkarni

Topic: Artificial Intelligence and Everyday Applications

Time: 2.00 to 3.30PM

Evolutionary Intelligence in Civil Engineering



Dr Amir H Gandomi

Professor & ARC DECRA Fellow:
Faculty of Engineering &
Information Technology,
University of Technology Sydney,
Australia

Amir H. Gandomi is a Professor and an ARC DECRA Fellow at the Faculty of Engineering & Information Technology, University of Technology Sydney, Australia. Prior to joining UTS, Prof. Gandomi was an Assistant Professor at Stevens Institute of Technology, USA and a distinguished research fellow in BEACON center, Michigan State University, USA. Prof. Gandomi has published over two hundred journal papers and seven books which collectively have been cited 23,000+ times (H-index = 70). He has been named as one of the most influential scientific minds and Highly Cited Researcher (top 1% publications and 0.1% researchers) for four consecutive years, 2017 to 2021. He also ranked 18th in GP bibliography among more than 12,000 researchers. He has served as associate editor, editor and guest editor in several prestigious journals such as AE of IEEE TBD and IEEE IoTJ. Prof Gandomi is active in delivering keynotes and invited talks. His research interests are global optimisation and (big) data analytics using machine learning and evolutionary computations in particular.

Time: 4.00 to 5.30PM

Artificial Intelligence for Agriculture Applications

Dr E S Gopi is working as an Associate professor at NIT Tiruchirappalli, India. has authored nine books, of which seven have been published by Springer. He has several papers in international journals and conferences to his credit. He has 23 years of teaching and research experience. His book on "Pattern recognition and Computational intelligence using Matlab". He is currently executing the Gas Turbine Research Establishment (GTRE, DRDO) project on "Hunting representative sensors and constructing regression model between sensor outcomes using ML". He is also supervising the SAMSUNG PRISM project on "Multimedia, Virtual Whiteboard Recorder & Player". His research interests include machine intelligence, pattern recognition, signal processing and computational intelligence. His You tube channel on the courses "Pattern recognition", "Statistical theory of Communication" and "Linear algebra and stochastic process" are well appreciated by the fellow students. He has received "Life Time Golden Achievement award in 2021 (Bharat Rattan Publishing House), "Best citizens of India in 2013" by the international publishing house, "Shiksha Rattan Puraskar Award", , certificate of excellence by Dr. Bhishma Narain Singh, Former Governor Assam and Tamil Nadu at India International Centre, New Delhi 2013, "Glory of India Gold Medal" by presented by Shri Syed Sibtey Razi, Former Governor of Jharkhand, at India International Centre, New Delhi 2013.



Dr E S Gopi

Associate Professor
Department of Electronics and
Communication Engineering
National Institute of Technology
Tiruchirappalli, India

Tuesday, November 23, 2021

Time: 2.00 to 3.30PM

Advances in Artificial Intelligence and Data science



Dr Ganesh Krishnasamy

Lecturer
School of Information Technology
Monash University, Malaysia

Ganesh Krishnasamy joined the School of Information Technology, Monash University Malaysia as a Lecturer in July 2019. He received the B.Eng. and M.Eng. degrees in electrical and electronic engineering from Universiti Kebangsaan Malaysia in 2004 and 2007. After working in the manufacturing industry for more than 4 years, he continued his doctoral studies at the University of Malaya where he completed his PhD degree in Electrical Engineering. After obtaining his PhD, he worked at Sime Darby Plantation as a data scientist for about a year. His current research interests include the field of computer vision, machine learning and optimization. His research interests include computer vision, pattern recognition, manifold learning, semi-supervised learning and sparse optimization with commercial applications in multimedia processing and understanding.

Time: 4.00 to 5.30PM

Resource Planning & Allocation using AI-based Techniques

Aniket Nargundkar holds a Master of Technology (MTech) in Manufacturing Technology from the National Institute of Technology, Tiruchirappalli, India, and a Bachelor of Engineering from Shivaji University, India. He has worked as Manufacturing Technologist with Danfoss Industries Pvt. Ltd., providing technological and process innovation solutions. He has worked in Denmark, Poland, and Mexico over a span of two years, together with professionals from Technology and Innovation, Lean Manufacturing, Production, Procurement & Quality in cross-functional teams, on Manufacturing, Supply Chain Problems & opportunities at Danfoss plants. Currently, he is an Assistant Professor in the Mechanical Engineering Department at Symbiosis Institute of Technology, Symbiosis International (Deemed University) (SIU). He is also pursuing a PhD in the area of Optimization Algorithms and Applications from SIU. His research interests include Optimization Algorithms and Applications, Goal Programming, Resource Planning & Allocation, Manufacturing Processes and Technology, Supply Chain Analytics, Mechatronics, and Automation. Aniket has published authored research book with Springer Publication and several research papers in top-quality peer-reviewed journals, book chapters, and international conferences.



Aniket Nargundkar

Assistant Professor
Symbiosis International (Deemed University), Pune, MH, India

Time: 2.00 to 3.30PM

Multi-Cohort Intelligence (Multi-CI) Algorithm for Solving Advanced Manufacturing Process Problems



Apoorva S Shastri

Assistant Professor
Symbiosis International (Deemed
University), Pune, MH, India

Apoorva S Shastri holds a Master of Technology (MTech) in VLSI Design and Bachelor of Engineering in Electronics & Product Design Technology from R.T.M.N.U, Nagpur. She has also done a Diploma from the Govt. Polytechnic, Nagpur. She worked as a guest faculty at Centre for Development of Advanced Computing (C-DAC), Pune.

Currently, she is Assistant Professor at the Symbiosis Institute of Technology, Symbiosis International (Deemed University), Pune. She is also pursuing PhD in Optimization Algorithms and Applications from Symbiosis International (Deemed University). Her research interests include development of optimization algorithms, VLSI design, multi-objective optimization, continuous, discrete and combinatorial optimization, complex systems, probability collectives and self-organizing systems. Apoorva developed socio-inspired optimization methodologies such as Multi-Cohort Intelligence Algorithm and Expectation Algorithm. Apoorva has published several research papers in peer-reviewed journals, chapters and conferences along with an authored book (Springer).

Time: 4.00 to 5.30PM

Intelligent L1 Adaptive Control: A Fuzzy & Metaheuristics Based Approach

Dr Kaushik Das Sharma received the BTech and MTech degrees in Electrical Engineering from Department of Applied Physics, University of Calcutta, India, and Ph.D. degree from Jadavpur University, India. He is currently serving as a Professor in Electrical Engineering Section of Department of Applied Physics, University of Calcutta, India. In 2019 he was invited as a Teacher-Researcher Fellow in University of Paris Est Creteil, France. He is a recipient of the Kanodia Research Scholarship in 2002 and University Gold Medal in 2004 from University of Calcutta. He also obtained Graduate Level National Merit Scholarship from Government of India in 1998. Dr Das Sharma's key research interests include fuzzy control, stochastic optimization, machine learning, robotics and computational biology. Dr Das Sharma has authored/coauthored several books and technical articles in international journals and conferences. Dr Das Sharma is a Senior Member of the IEEE (USA) and a Life Member of Indian Science Congress Association. He has served as a Secretary of IEEE Joint CSS-IMS Kolkata Chapter in 2017-2019 and currently serving as Vice Chair of the chapter. Dr Das Sharma is currently serving as an Editor of IEEE Transactions of Vehicular Technology and Engineering Applications of Artificial Intelligence (Elsevier).



Dr Kaushik Das Sharma

Professor, Electrical
Engineering Section of
Department of Applied
Physics, University of Calcutta,
India

Sports Inspired Metaheuristic Algorithms



Dr Ali Husseinzadeh Kashan

Associate professor
Faculty of Industrial and Systems
Engineering, Tarbiat Modares
University, Iran

Dr Ali Husseinzadeh Kashan holds degrees in Industrial Engineering from Amirkabir University of Technology (PolyTechnique of Tehran), Iran. He worked as a postdoctoral research fellow at the department of Industrial Engineering and Management Systems with the Financial support of Iran National Elite foundations. Dr. Kashan is currently an associate professor in the Faculty of Industrial and Systems Engineering, Tarbiat Modares University and is the head of the Digital Transformation Center at TMU. His research focuses on data driven multi-criteria decision making and solving hard combinatorial optimization problems in areas such as logistics and supply networks, revenue management and pricing, resource scheduling, etc. As solution methodologies for real world engineering design problems, he has introduced several intelligent optimization procedures, which inspire from natural phenomena, such as League Championship Algorithm (LCA), Optics Inspired Optimization (OIO), Find-Fix-Finish-Exploit-Analyze (F3EA) metaheuristic algorithm, Golf Sport Inspired Search (GSIS) and Grouping Evolution Strategies (GES). Dr. Kashan has published over 150 peer-reviewed journal and conference papers, and has served as a referee for several outstanding journals. He has received several awards from Iran National Elite Foundation and in 2016 he was honored by the Academy of Sciences of Iran as the “outstanding young scientist of Industrial Engineering”.

Time: 4.00 to 5.30PM

Cooperative Co-evolution – Fine Tuning and Applications

Mohammed El-Abd (senior member of IEEE) is an associate professor of computer engineering in the College of Engineering and Applied Sciences at The American University of Kuwait (AUK). He obtained his B.Eng. and M.Sc. from the ECE Department at Ain Shams University in Egypt in 1998 and 2003, respectively. He obtained his Ph.D. from the ECE Department at the University of Waterloo (UW), Canada in 2008. He has published more than 80 publications including journal articles, conference publications, abstracts, and book chapters. He is an associate editor of the Swarm and Evolutionary Computation (SWEVO) journal by Elsevier since 2016 and served as a guest editor for the IEEE Transactions on Education. He serves as a reviewer for many prestigious journals including the IEEE Transactions on Evolutionary Computation, the IEEE Transactions on Cybernetics, and IEEE Access. He is the founding chair of the “Symposium on Cooperative Metaheuristics” organized within IEEE-SSCI. In 2019, Dr El-Abd was named among the top 2% of researchers in Artificial Intelligence as per the Stanford University – Elsevier list. His research interests span the areas of meta-heuristics, evolutionary computation, swarm intelligence, cooperative algorithms, continuous optimization, large-scale optimization, Internet-of-Things (IoT), smart cities, control & robotics, and engineering education.



Dr Mohammed El-Abd

Associate Professor & Dean
Faculty of Computer Engineering
College of Engineering and Applied
Sciences
American University of Kuwait (AUK)

Friday, November 26, 2021

Time: 2.00 to 3.30PM

Swarm Intelligence Algorithms in Vehicle Routing Problems



Dr Magdalene Marinaki

School of Production Engineering & Management, Technical University of Crete Chania, Greece

Dr Magdalene Marinaki was born in Chania, Greece. She received a Diploma in Production Engineering and Management from the Technical University of Crete, Greece, a MSc in Operations Research and a PhD from the same University. Currently she serves as a permanent staff (laboratory teaching personnel, research associate) in the Technical University of Crete, School of Production Engineering and Management, Chania, Greece. Her research interests focus on Computational Methods in Optimization Problems, on Nature Inspired Methods, on Metaheuristics Algorithms, on Supply Chain Management, on Vehicle Routing Problem, on Optimal and Automatic Control, on Structural Control and on Data Mining. She is the author of 3 books and of 42 papers in international scientific journals. She has more than 70 papers in book chapters and in the proceedings of international and national scientific conferences. She has worked as a researcher in many European Research projects.

Dr Yannis Marinakis was born in Chania, Greece, in 1976. He received a Diploma in Production Engineering and Management from the Technical University of Crete, Greece, in 1999, an M.Sc. in Operations Research and a Ph.D., from the same University, in 2001 and 2005, respectively. He is currently an Associate Professor of Stochastic Optimization and Applications in the School of Production Engineering and Management of the Technical University of Crete, Chania, Greece. His research interests focus on Stochastic Optimization, on Combinatorial Optimization, on Nature Inspired Methods, on Metaheuristic Algorithms, on Supply Chain Management, on Vehicle Routing Problem, on Operations Research, on Game Theory, on Computational Methods in Optimization Problems, on Optimal and Automatic Control and on Structural Control. He teaches the following undergraduate courses: Combinatorial Optimization, Game Theory, Design and Optimization in Supply Chain Management and the following postgraduate courses: Evolutionary Algorithms and Optimization of Large-Scale Systems and Metaheuristic and Evolutionary Algorithms for Supply Chain Management Problems. He is the author of 6 books and of 54 papers in international scientific journals. He has more than 85 papers in book chapters and in the proceedings of international and national scientific conferences. He is currently Scientific Responsible of 3 research projects while 3 research projects have been completed under his responsibility. He has participated in a number of research projects as a Researcher. Currently he is the Supervisor of 7 Ph.D. theses and of a number of M.Sc. theses and diploma theses. Under his supervision 3 Ph.D. theses, 37 master theses and 67 diploma theses have been completed.



Dr Yannis Marinakis

School of Production Engineering & Management, Technical University of Crete Chania, Greece

Friday, November 26, 2021

Time: 4.00 to 5.30PM

Artificial Intelligence and Everyday Applications



Dr Anand J Kulkarni

Professor & Associate Director
Institute of Artificial Intelligence
MIT World Peace University
Pune, MH, India

Anand J Kulkarni holds a Ph.D. in Distributed Optimization from Nanyang Technological University, Singapore, MS in Artificial Intelligence from the University of Regina, Canada, Bachelor of Engineering from Shivaji University, India, and Diploma from the MSBTE, Mumbai. He worked as a Post Doctorate Research Fellow at Odette School of Business, University of Windsor, Canada. Anand has worked with Symbiosis International University, Pune, India for over six years. Currently, he is a Professor & Associate Director at the Institute of AI at MITWPU. His research interests include optimization algorithms, multi-agent systems, complex systems, swarm optimization, and self-organizing systems. Anand pioneered socio-inspired optimization methodologies such as Cohort Intelligence, Ideology Algorithm, Expectation Algorithm, and Socio Evolution & Learning Optimization Algorithm. He is the founder and chairman of Optimization and Agent Technology Research Lab and has over 70 research papers in journals and conferences, 4 authored and 8 edited books to his credit. Anand is the lead editor for the Springer and Taylor and Francis book series. He regularly writes on Artificial Intelligence in several newspapers and magazines. He has delivered expert research talks in many countries such as the USA, Canada, Singapore, Malaysia, India, and France.

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