Hari Prasad

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Career Objective

To build a career in Research, in the field of fundamental and theoretical Artificial Intelligence

Interested Areas

Deep Learning, Reinforcement Learning, Few-Shot Learning, Causal Analysis, Knowledge representation, 3D Reconstruction, Generalization, Optimization.

Education

TKM College of Engineering ***(2021 - 2023)***
M.Tech in Artificial Intelligence

College of Engineering Karunagappally ***(2016 - 2020)***
B.Tech in Electrical and Electronics Engineering - 7.73 CGPA

Kendriya Vidyalaya No.2 Armapur, Kanpur ***(2015)***
Senior Secondary (CBSE) - 78.5%

Kendriya Vidyalaya NTPC Ramagundam ***(2013)***
Higher Secondary (CBSE) - 10 CGPA

Work Experience

College of Engineering Karunagappally ***(Feb 2021 - Aug 2021)***
Project Fellow (KSCSTE)

- *KSCSTE funded Research project, "**Development of a fully automated Indigenous software for Efficient Karyotyping for Chromosome abnormality detection**", under Mrs. Remya R. S, Assistant Professor CSE Dept.*

  Research Highlights:
  - *Used 30+ semantic segmentation models to compare and analyze the performance and developed a novel U-Net based lightweight encoder-decoder model with very good results, for the removal of interface cells from metaphase images.*
  - *Developed a novel translational Conditional-GAN model to perform segmentation of overlapping chromosomes.*
  - *Worked on enhancing chromosome metaphase images using image processing*

techniques and developed a technique to improve the classification performance to over 95% after enhancement.

Zellab Dynamics Pvt. Ltd. ***(Aug 2020 - Present)***
Founder

- *Led the Engineering Team in developing a Multi-Tenant eCommerce Platform.*
- *Defined and implemented product development standards up-to-date coding methodologies and best practices.*
- *Defined the technology stack and implemented an agile development culture.*
- *Designed and developed the User interface (UI) for the platform.*
- *Developed a platform for Virtual conference management.*

Publications

- ***Deep Learning based Semantic Segmentation of Interphase Cells and Debris from Metaphase Images (In Production)***
  R S Remya, S Hariharan, Hari Prasad, C Gopakumar
  (International Journal of Imaging Systems and Technology, 2022)

  Inspired by the results of UNet, a lighter version L-UNet is developed and experimented with. It shows IoU (Intersection over Union) of 0.9809 and F1-score of 0.9903.

- ***Chromosome Image Enhancement for Efficient Karyotyping***
  R S Remya, Hari Prasad, S Hariharan, C Gopakumar
  (IEEE ICITIIT, 2022) https://doi.org/10.1109/ICITIIT54346.2022.9744195

  Image processing methods are systematically extended for the preprocessing of chromosome images, and a novel approach for denoising and enhancing the chromosome images is proposed.

Technical/Soft Skills

Programming languages *- C/C++, Python, PHP, Javascript*
Frameworks and Libraries *- TensorFlow, PyTorch, Keras, Scikit-Learn, Laravel, Lumen, ReactJS, React Native, NodeJS, ExpressJS, MongoDB, SQL, Docker, Kubernetes*
CAD/Designing Tools *- AutoCAD, 3DS Max, DIALux Evo, PVSyst, Cinema4D*
Soft Skills *- Communication, Leadership, Problem Solving, Adaptability, Visualization, Analytical Skills*

Projects

6 DOF Robotic Arm-based Extended Autonomous 3D Printer ***(2019 - 2020)***
This Project solves the basic imitations of a 3D Printer by using a 6 DOF Robotic Arm. The Project overcomes several issues of conventional 3D printers by combining the Robotic Arm with the existing 3D Printing technology. The resulting System overcomes the dimensional

limitation of the printed object using the help of a 6 DOF robotic arm. The final result is an extended 3D printer with the ability to print any sized object.

Internships

United Electrical Industries Limited (UNILEC), Kollam (2017)
Completed my internship at UNILEC Kollam, working on Energy Meters. United Electrical Industries Limited was the first factory in India to manufacture Electricity House Service Meters. Current products include double-jet water meters, DOL starters, AC Motor Starters, etc.

Awards/Recognitions/Grants (Received & Involved in)

1. Received 1800 USD in Project Grant from IEEE PES (2018)
2. IEEE PES Kerala Chapter Outstanding Student Volunteer Award 2020
3. Travel Grant to attend TPEC 2020 at Texas A&M University, College Station, Texas, USA

International Conferences attended

1. IEEE Texas Power and Energy Conference, Texas A&M University, Texas, USA
2. IEEE Power Electronics, Smart Grid and Renewable Energy (PESGRE) Conference 2020, Kochi, India
3. IEEE WIE International Leadership Summit 2019, Bangalore, India
4. IEEE Region 10 Conference (TENCON), Kochi, India 2019
5. IEEE International Power and Renewable Energy Conference (IPRECON) 2020
6. IEEE International Power and Renewable Energy Conference (IPRECON) 2021
7. IEEE Asia-Pacific Power and Energy Engineering Conference (APPEEC) 2021

Volunteering Experience

1. Vice-Chair IAS SBC College of Engineering Karunagappally (2016-2017)
2. Vice-Chair IEEE PES SBC College of Engineering Karunagappally (2017-2018)
3. Chair IEEE PES SBC College of Engineering Karunagappally(2018-2019)
4. Chair IEEE PES SBC, College of Engineering Karunagappally (2019-2020) (Re-elected)
5. Webmaster, IEEE SB College of Engineering Karunagappally (2018-2020)
6. Student Representative, IEEE IA/IE/PELS Jt. Chapter Kerala Section (2019-2020)
7. Technical Coordinator, IEEE IA/IE/PELS Jt. Chapter Kerala Section (2019-2020)
8. Design Team Lead, IEEE SB College of Engineering Karunagappally (2017-2020)
9. IEEE PES Day Global Design Team Lead 2020
10. IEEE PES Day Kerala Section Ambassador 2020
11. Technical Chair, IEEE International Power and Renewable Energy Conference (IPRECON) 2020
12. IEEE Smart Grid R&D Committee Member (2019 - Present)
13. Mentor, IEEE SB College of Engineering Karunagappally. (2020 - Present)
14. IEEE PES YP Kerala R&D Committee Coordinator (2020 - Present)
15. IEEE PES Kerala Chapter Entrepreneurship Committee Coordinator (2022 - Present)

Led and coordinated 100+ Technical Workshops and Events, including 3 national-level Events and 2 International Conferences. Led a Professional body of 100+ students in the last 3 years.