Anil Goyal

Research Scientist at NEC Research Labs

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Nationality: Indian
Age: 28

Work Experience

Oct, 2018–present   **Research Scientist**, *NEC Laboratories Europe*, Heidelberg, Germany.
- **Research & Development:**
  - Designed and developed an ensemble learning based algorithm for imbalanced binary classifications tasks (applied to predictive maintenance, credit fraud detection, webpage classification and medical tasks). Filed a patent and submitted a research paper based on this algorithm.
  - Currently, working on design and development of lifelong learning based ML algorithm.
- **European Commission Project COREALIS:** Developing and productizing model for predictive maintenance and travel time prediction tasks for trucks operating at European sea ports using meta learning for ensemble methods.
- **Business Unit Projects (NEC Japan):** Responsible for developing algorithms for projects on driver drowsiness detection (using multi-task learning) and predictive maintenance task (using ensemble learning).
- Responsible for developing interactive visualizations for developed methods.

Nov, 2015–Oct,2018   **Doctoral Researcher**, *LIG, Grenoble and LaHC, Saint-Etienne*, France.
- Designed and developed 3 multiview learning algorithms using PAC-Bayesian theory and ensemble learning.
- Experimented on text (written in 5 languages) and image (with 4 views) datasets. Showed significant improvement in prediction performance compared to state-of-art methods.
- Actively involved in French ANR Project LIVES.
- Top International publications: Neurocomputing Journal 2019, IDA 2018 (CORE Rank A), ECML-PKDD 2017 (CORE Rank A).
- Top National publications: CAp 2018, CAp 2017, CAp 2016.

Aug–Oct,2015   **Data Science Engineer**, *Cube26 Private Limited*, New Delhi, India.

Developed algorithms for aggregation of similar news articles from different sources and finding the appropriate advertisement banners for the news articles for Neon News android application.

Feb–Jun,2015   **Research Intern**, *Laboratoire d'Informatique de Grenoble (LIG)* , Grenoble, France.
- **Masters Thesis** at AMA team, LIG, Grenoble under the guidance of Prof. Massih-Reza Amini.
- Designed and developed an algorithm for learning information retreival models' parameters using transfer learning approach from a labeled source collection to an unlabeled target collection.
- Publication at French Machine Learning Conference CAp 2015.

May–Aug,2014   **Software Developer**, *Pyramid Cyber Security & Forensics Private Limited*, New Delhi, India.

Designed and developed an algorithm to detect frauds (made using erasable ink pens) in back cheques for Punjab National Bank, India.

May–Jul,2013   **Research Intern**, *University of Hyderabad*, Hyderabad, India.
- Designed and developed an algorithm to find number of clusters in short text documents using Ncut-term weighing scheme and spectral clustering (under the guidance of Prof. Arun K. Pujari).
- Publication at IEEE conference NCVPRIPG 2013.

May–Jul,2012	**Developer Intern**, *Institute of Nuclear Medicine & Allied Sciences (INMAS), DRDO*, Delhi, India. Designed and developed Leave Management System and Document Dispatch System using PHP, MySQL, HTML and CSS.

Education

2015–2018	**Ph.D. in Machine Learning**, *Université de Lyon*, Lyon, France, **Supervisors:** Prof. Massih-Reza Amini and Dr. Emilie Morvant. **Subject:** Learning a Multiview Weighted Majority Vote Classifier: Using PAC-Bayesian Theory and Boosting.
2014–2015	**Masters of Science in Informatics (MOSIG)**, *ENSIMAG, Grenoble INP*, Grenoble,France, *(with honors)*. Subjects: Machine Learning, Information Access and Retrieval, Computer Vision, Advanced Human-Computer Interaction, Computational Geometry and Medical Imaging, Simulation & Robotics.
2010–2014	**Bachelor of Technology**, *The LNMIIT*, Jaipur, India, *CGPA − 8.69/10*. Specialization: Computer Science and Engineering

Activities

R&I Projects	European Commission Project **COREALIS** (Oct 2018 - present). French **ANR LIVES** Project (Jan, 2016-September, 2018).
Student Supervision	**Soroush Seifi**, Subject:"A PAC-Bayesian Multiview Study", Laboratoire Hubert Curien, CNRS, Saint-Etienne, France (Apr–Jun,2016). Co-supervised with Prof. Amaury Habrard and Dr. Emilie Morvant
Workshops	Design Thinking 2019, Proposal Writing for H2020 R&I Projects 2019, Deep Learning Workshop 2017,Computational and Statistical Trade-offs in Learning 2016
Summer School	Gaussian Process and Uncertainty Quantification Summer School, 2019
Teaching Assistance	**Database Management Course**, The LNMIIT, Jaipur, India (Jan-May,2012 & Jan-May,2013). Co-advised with Prof. Subrat K. Dash

Skills

Programming	Python, C, JAVA, MATLAB, SQL
Tools	ML tools (Scikit-learn, Numpy, Pandas, Jupyter notebook), Deep Learning (TensorFlow), Visualization (Plotly, Matplotlib, D3.js, Mapbox), Web Development (HTML, CSS, PHP, JavaScript, JSP), AWS (EC2), Terrier IR Platform
Languages	English: fluent / French: intermediate / Hindi: native speaker

Achievements

2015-2018	Rhône-Alpes Funding for pursuing PhD.
2013	Google AdCamp, Hyderabad, India.
2007	President Scout Award in National Scout and Guide Activity, India.

Filed Patent

2019	**Anil Goyal** and Jihed Khiari, "Diversity-Aware Weighted Majority Vote Classifier for Imbalanced Datasets"

Publications

Google Scholar Profile