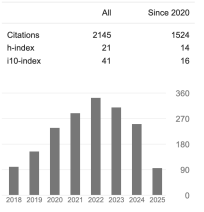


SANTANU PAL (PHD)

Transforming AI research into real-world impact:
Expert in NLP, low-resource MT, and AI for healthcare.
Driving innovation through ethical, interdisciplinary,
and industry-ready AI solutions.



CONTACT

- ✉ santanu.pal.ju@gmail.com
- ☎ +91 9903217905
- 📍 183/1 Khan Road, Mankundu - 712139
- 📧 @santanupal1980
- 🌐 dr-santanu-pal-6511076a
- 🆔 0000-0003-3079-6903
- 🎓 Google Scholar

- 📄 Publications^a
- 📁 Projects

SKILLS

Agentic AI

Open AI SDK

Crew AI

LangGraph

Autogen

MCP

★★★★★

★★★★★

★★★★★

★★★★☆

★★★★☆

★★★★☆

Programming

Python

Java

C++

PyTorch

LaTeX

★★★★★

★★★★☆

★★★★☆

★★★★☆

★★★★★

★★★★★

GENERATIVE AI (GEN AI)

Hugging Face Transformers

LangChain

Prompt Engineering

RAG

Large Language Models

(e.g., Foundation Models, LLM finetuning (PEFT, LoRA, qLoRA etc.), alignments (RLHF, PPO, DPO), Tool/function calling, ...)

★★★★★

★★★★★

★★★★★

★★★★★

★★★★☆

★★★★★

Software, Libraries & Tools

Visualisation

(e.g. matplotlib, gnuplot, ...)

Data handling/analysis

(e.g. NumPy, Pandas, Scikit-learn, NLTK, Gensim, SpaCy, ...)

Docker

Git

★★★★★

★★★★★

★★★★☆

★★★★★

^aPapers published in ACL, CHI, EACL, COLING, ECIR, LREC and many more.

ABOUT

I am a **Research scientist** specializing in **Natural Language Processing (NLP)**, **Machine Translation (MT)**, **Generative AI (GEN AI)** and **Agentic AI**. My research focuses on developing **multilingual, human-centric AI systems** for various domain. Since 2020, as a **Lead Scientist** at Wipro, I've led projects, collaborated academically, and secured a ****US patent****. For more details about my work, explore my comprehensive **Publications** and leading **Projects**.

KEY RESPONSIBILITIES

- Led a team of researchers on multilingual NLP, Agentic AI and Generative AI for various domain.
- Drove end-to-end R&D, from hypothesis to scalable, production-ready AI deployment solution.
- Specialized in training, fine-tuning and alignments of LLMs with PEFT, LoRA/QLoRA, RLHF, PPO, DPO for domain-optimized solutions.
- Built and deployed prototypes in MT, persuasive NLP, and behavior-aware AI.
- Published in top venues (ACL, CHI), Patents, organized shared tasks & workshops.
- Established benchmarking and evaluation for LLM performance and efficiency.
- Aligned R&D with business goals via cross-functional and academic collaborations.
- Mentored junior researchers, promoting innovation and team development.

WORK HISTORY

📅 03/2020 – Present	Lead Scientist
📍 Wipro, Kolkata, India	
📅 03/2017 – 02/2020	Post Doctoral Researcher
📍 Saarland University, Germany	
📅 09/2018 – 10/2019	Researcher
📍 DFKI, Saarbruecken, Germany.	
📅 11/2013 – 09/2016	Research Assistant
📍 Saarland University, Germany	
📅 09/2008 – 08/2013	Research Engineer
📍 Jadavpur University, Kolkata, India	
📅 08/2004 – 08/2008	Web Developer
📍 The Eye Within, Kolkata, India	

EDUCATION

📅 04/2014 - 11/2017	PhD in Language Sc. & Tech.
📍 Saarland University, Germany	
Thesis: A Hybrid Machine Translation Framework for an Improved Translation Workflow	
📅 07/2010 - 06/2013	M.Tech. in Computer Technology
📍 Jadavpur University, Kolkata, India	
Thesis: Improved Alignment in Phrase Based Statistical Machine Translation System	
📅 08/2000 - 05/2004	B.Tech. in Computer Sc. & Engg.
📍 Kalyani University, West Bengal, India	

PATENT, HONOURS AND AWARDS

- 🏆 Patent Application No. 202441100168 Patent Filed for AI-based Skill extraction from job posting and resumes.
- 🏆 Wipro Excellence in Competency

GENERAL SKILLS

Machine Learning

Deep Learning

Sequence Modeling

Probabilistic Models

NLP

Patenting

Academic Writing

Scientific Engagement

Critical Thinking

Scientific Communication

Collaboration

Project Leadership

Strategic Planning

LANGUAGES

English

Hindi

Bengali

German

★★★★★

★★★★★

★★★★★

★★★☆☆

INVITED LECTURES

- ★ Delivered a talk on “NLP using Deep Learning: Attention Models” at the AICTE ATAL Faculty Development Program.
- ★ Delivered a talk on “Attention Mechanisms” at a workshop on Natural Language Processing (NLP): Tools and Techniques organized by the Department of Computer Science and Engineering, Assam University in collaboration with the IEEE Student Branch, Assam University, Silchar, India.
- ★ Delivered a lecture on Neural Machine Translation at IIT Patna, India.
- ★ Delivered a lecture on Neural Machine Translation at a summer school: “Applied NLP and Unstructured Data Analytics” organized by the International Centre for Free and Open Source Software, Kerala, India.
- ★ Delivered a lecture on Automatic Post Editing at Jadavpur University, India.
- ★ Other activities include conference presentations, organizing conferences and workshops, serving as area chair for top-tier conferences, senior program committee membership, and reviewing submissions.

REFERENCES

Prof. Josef Van Genabith

📍 Saarland University, Germany

📞 +49 (681) 85775 5287

✉ Josef.van_Genabith@dfki.de

✉ josef.vangenabith@uni-saarland.de

Prof. Asif Ekbal

📍 IIT, Patna, India

📞 +91 (8521) 274 830

✉ asif@iitp.ac.in

✉ asif.ekbal@gmail.com

Dr. Sudip Kumar Naskar

📍 Jadavpur University, India

📞 +91 (9477) 322 327

✉ sudip.naskar@gmail.com

✉ sudip.naskar@cse.jdvu.ac.in

PROJECTS

ZenifyPro: Personalized Persuasion Engine for Health Care

- ★ Developed an end-to-end GEN AI Based Agentic framework generating persuasive notifications for sleep disorder patients.
- ★ Utilized LLMs, Langchain, prompt engineering, and reinforcement learning for adaptive strategies.
- ★ Python PyTorch Langchain Reinforcement Learning

SCOPE-API: Skill Extraction from Job Descriptions and CVs

- ★ Built a skill extraction API for a talent match engine using transformer models. Deployed on Azure.
- ★ Outperforms GPT-4.
- ★ Python PyTorch Flask SpaCy Hugging Face
- 🏆 Patent filed.

LUCIFER: Fake News Verification and Explanation Generation

- ★ Developed a domain-agnostic real-time fake news verification and explanation system.
- ★ Implemented meta-curriculum learning for cross-domain generalization.
- ★ Python PyTorch Hugging Face Meta Learning

EXCLAIM: Meme Role Labelling and Explanation Generation

- ★ Built a multimodal system to detect and label roles in harmful memes.
- ★ Combined OCR, OpenCV, and transformer models for meme explanation generation.
- ★ Python PyTorch OCR OpenCV Hugging Face

Industry-Academia Collaborative Projects

- ★ Worked on hate speech detection, document-level machine translation, and lecture video translation.
- ★ Python PyTorch Hugging Face
- 🏆 Achieved one A* and three A-level research publications.

Postdoctoral Research Projects

- ★ MMPE: Multimodal post-editing support for machine translation.
- ★ DEEPLER: Deep learning for end-to-end language technology applications.
- ★ APE++: Neural automatic post-editing.
- ★ Python PyTorch Transformers
- 🏆 Achieved multiple A* and A-level publications.

CONFERENCE AND WORKSHOP ORGANIZER

- ★ QuantumNLP: Integrating Quantum Computing with Natural Language Processing Under 14th IJCNLP-AAACL 2025 Workshop Mumbai, India. Date: Dec 23-24, 2025
- ★ SLT and IndicMT task with Conf. on Machine Translation (WMT 2019-25)

EXPERTISE AND RESEARCH PUBLICATION WHEELS

