Sushil Kumar Ammanaghatta Shivakumar

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Education

- **Albert Ludwig University of Freiburg** — Freiburg, Germany
  Masters in Computer Science: Specialization in AI; GPA:2.8/4 — Oct. 2021 – Present
  Master Thesis: Generative model for clip selection
- **PESIT-BSC(South Campus)** — Bangalore, India
  Bachelor of Engineering in Computer Science; GPA:1.9 /4 — Aug. 2017 – June 2021

Experience

- **Master Thesis Student (current)**: Feb 2024 – Oct 2024
  Zebracat AI
  Working on Thesis about Generative model for Video Clip Selection.
  Advisor: Mohammadreza Zolfaghari
  - Generate a sequence of embeddings that can be used for clip search based on input script or idea.
  - Improving the selection process by aligning closely with the conceptual intent of the script.
  - State-of-the-art generative model like GPT to generate a sequence of embeddings instead of text or images.

  Technology / Tools: Pytorch, Scikit-Learn, SLURM, Wandb

- **Research Assistant (current)**: May. 2023 – Oct 2024
  Fraunhofer-Institut für Solare Energiesysteme ISE
  Advisor: Dr. Paul Gebhardt
  - Assisting the team with Data scrapping from Research papers.
  - Built a web crawler using Selenium to search papers from the query and download them from the Fraunhofer E-Lib, Google Scholar.
  - A program that divides the texts from pdf into blocks, searches for related keywords, and gets the required data.
  - Scraping data, images, and tables from the PDFs using PyMuPDF

  Technology / Tools: Langchain, Azure API, Selenium, PyMuPDF, RAG

- **Research Assistant**: April. 2022 – March 2023
  Max Planck Institute for Security and Privacy (MPI-SP)
  Advisor: Prof. Dr. Asia J. Beiga
  - Assisted the team with the research about Legitimate Interest
  - Built a web crawler using Selenium to search for the Tranco top 10k sites.
  - The crawler checked whether legitimate interest(s) were present on the site, and screenshots were downloaded with the data on the site.
  - Qualitative analysis on the screenshots using MAXQDA
  - Scraping posts of Reddit and Stack Exchange to further investigate Legitimate Interest

  Technology / Tools: Selenium, Beautifulsoup, MaxQda

- **Machine Learning Intern**: July. 2020 – Aug 2020
  TAO The Automation Office-Internship
  - Assisted the tech team with TAPP 3.0 coding.
  - Developed auto table formation logic based on the document layout.
  - Analyzed the document based on unique features like vendor information, invoice, and purchase order number.

  Technology / Tools: Pandas, Scikit-learn

Projects

- **Training Noisy Real vs Generated Images for Attribute Classification**:
  - This project involves finding and downloading images based on specific attributes,
  - Compare the performance of the CLIP model trained on these generated images by Stable Diffusion with those trained on real ones.

  Technology / Tools: Pytorch, Python
- **AskPDF**:
  - This Web app allows users to interact with PDF and get the answers to the questions asked.
  - Options to use either the local LlaMa through Ollama and with APIs of the OpenAI GPT

  Technology / Tools: Langchain, Streamlit, Python, Vector base,RAG
- **Personality Prediction Using Social Media**:
  - Build a web application that can be linked with Facebook.
  - It analyses personality traits and the Big 5 model to predict a user's personality.

  Technology / Tools: NLP, HTML, PHP, Machine Learning, SQL

Publications

- **1**: Lin Kyi, **Sushil Ammanaghatta Shivakumar**, Franziska Roesner, Cristiana Santos, Frederike Zufall, and Asia Biega. 2023. **CHI'23** Investigating Deceptive Design in GDPR's Legitimate Interest.
  - Awarded the Council of Europe's 2024 Stefano Rodotà Award in Data Protection
  - Selected for presentation at the French Data Protection Authority's CNIL Privacy Research Day 2023
  - Preliminary version selected for presentation at the Berkeley Center for Long-Term Cybersecurity's annual research symposium on "Comparing Effects of and Responses to the GDPR and CCPA/CPRA."
- **2**: AutoML Decathlon: Diverse Tasks, Modern Methods, and Efficiency at Scale. **NeurIPS 2022 Competition Track**
  - AutoML Decathlon 2022 - 2nd Runner Up

Coursework

Machine Learning, Deep Learning, Information Retrieval, Mobile Robotics, Robot Mapping.

Programming Skills

- **Languages:** Python, C/C++, Java
- **Libraries:** Pytorch, Numpy, OpenCV, Pandas, Selenium, PyMuPDF,
- **Technologies:** MySQL, SPARQL, Git, Linux, Latex, Docker, AWS
- **Interests:** Generative AI, MLOps, Responsible AI, Data Science

Certifications

- **Parallel, Concurrent, and Distributed Programming in Java Specialization**:
  Coursera - Rice University
- **Deep Learning Specialization**:
  Coursera - deeplearning.ai

Additional Activities

- **Core Team member for Activity Day**: Along with three other teammates, led the computer science department in the inter-departmental competitions, which included technical and non-technical competitions.
- **Core Team Member for Maaya**: Along with the team, planned various activities and events to be held at the fest, was responsible for portraying the fest in the market and arranging enough funds for the proper conduction of the fest.