

GURMEHER SINGH PURI

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Profile

I am a Fourth-semester master's student in Computer Science with a focus on Artificial Intelligence at the University of Freiburg. Currently working as a Work Student at Fraunhofer ISE, Freiburg, with a background as a Software Engineer at Samsung R&D Institute. Expertise in software development, automation testing, and various programming languages. Seeking opportunities to enhance skills and knowledge, preferably in a tech lead role.

Employment History

Working Student, Fraunhofer-Institut für Solare Energiesysteme ISE, Freiburg, Germany

March 2024 - Present

- Developed the Spotlob project, an image processing library designed to automate detection tasks such as circle and line analysis.
- Created pipelines consisting of various processing steps to analyze images and extract features.
- Automated Projects and processes by integrating Apache Airflow for workflow management, MinIO for object storage, and Flask for webhook notifications.

AI Work Student, INATECH & Machine Learning Lab, University of Freiburg

December 2024 - July 2025

- Developed a machine learning system for predicting electricity grid carbon emission intensities across Germany using AutoML.
- Integrated data from ENTSO-E and CO2map.de, covering generation forecasts, cross-border trading, and carbon intensity measurements.

Software Engineer, Samsung Research and Development Noida

August 2021 - September 2023

- Developed 12 tools and websites using JavaScript, Python, and RPA to reduce manual efforts.
- Expertise in Android Studio and JUnit for automated test cases for Samsung Knox security platform.
- Managed smoke executions on 1000+ devices using CI/CD tools.

Software Engineer Intern, Samsung Research and Development Institute Noida, India

January 2021 - July 2021

- Developed 2 websites using JavaScript, Python, and CSS.
- Participated in Samsung Knox automation test case development and server handling using Dom judge systems.

Web Developer Intern, Bharat Heavy Electrical Limited (BHEL)

May 2019 - July 2019

- Developed a basic website called "Student Tracker" using Eclipse and Tomcat Server 9.0.

Skills

- **Programming Languages:** Python, Java, C++, SQL

- **Tools & Technologies:** Git, Android Studio, CI/CD, Robotic Process Automation (RPA), Gitlab, Apache Airflow, MinIo, Docker
- **Software Development:** Process Automation, Web Development, Data Processing, Automation testing.
- **Certifications:** Microsoft Certification in HTML5 with JavaScript and CSS3, Google Digital Marketing Expert, UiPath Certified Professional Automation Developer Associate

Education

Master's in Computer Science, Albert Ludwigs University of Freiburg

October 2023 - Present

Bachelor's in Computer Science and Engineering, Amity University Uttar Pradesh, India, Noida

July 2017 - June 2021

Projects

Electricity Carbon Intensity Prediction (AutoML, Python, Pandas)

Master Project at University of Freiburg

- Developed a system to forecast electricity carbon intensity in Germany using AutoGluon, integrating multiple European energy data sources.

Predicting Algorithm Runtime with TabPFN (Python, Deep Learning, TabPFN)

University of Freiburg Lab Project

- Investigated the use of TabPFN to predict algorithm runtime distributions, comparing it against specialized deep learning models.

Chatbot for Research Assistance (Python, NLP)

Developed at Samsung R&D | June 2023 - August 2023

- Developed a Python-based chatbot with NLP capabilities using NLTK and spaCy to accelerate patent research for engineers.

Automation Process Tool: (Python, MinIo, Apache Airflow, Docker)

Developed at Samsung R&D | March 2024 - June 2024

- Created an internal tool to automate the testing and validation pipeline by integrating Airflow, MinIO, and Flask.

Automated Data Processing Tool (Python, Pandas)

Developed at Samsung R&D | January 2023 - March 2023

- Automated data processing tasks, including cleansing and transformation of device performance logs using the Pandas library.

RPA SWEET Tool (Python, RPA)

June 2022 - October 2022

- Automated testing manual work using RPA, saving over 120,000 hours yearly.

RPA CR-CT Tool (Python, RPA)

January 2022 - April 2022

- Developed a tool for downloading software binaries overnight, saving 9,200 hours yearly.

RPA SWC Analyst (RPA)

March 2023 - July 2023

- Analyzed scores of Samsung Professional coding tests and provided recommendations, saving 20,000 hours yearly.

Publications

- **A Review on Cloud Computing**

January 2019 - May 2019

- **Cryptographic Technique for Communication System through Diffie Hellman Key Algorithm**

December 2020 - June 2021

- **High Performance Computers and Computational Science**

December 2019 - April 2020

Achievements

- NSIC: Entrepreneurship Orientation Program (EOP)
- Microsoft Certification for Programming in HTML5 with JavaScript and CSS3
- Google Certification: Digital Unlocked (Digital Marketing Expert)
- UiPath Certified Professional Automation Developer Associate
- Stanford online course on Algorithm: Design and Analysis
- Samsung RPA Best Team Award
- Samsung Employee of the Quarter Award for Q1 and Q3 2022
- Samsung Best Project award for RPA SWEET Tool