

# Kartik D. Pardeshi

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## Work Summary:

**Dynamic and innovative Data Scientist with over 3 years** of experience at NTT, ranked 55th among the Global 500 companies, specializing in leveraging advanced analytics, machine learning, and AI-driven solutions to drive actionable insights and develop scalable, impactful solutions. With a robust background in statistical analysis, NLP, machine learning model development, and web scraping, I excel in extracting valuable insights from complex datasets and addressing business challenges through data-driven strategies. My expertise encompasses a broad spectrum of technologies, including Python, machine learning frameworks (e.g., scikit-learn, TensorFlow, PyTorch), and data manipulation libraries (Pandas, NumPy), enabling me to effectively analyze data and implement sophisticated models.

## Key Achievements:

- **Cybersecurity:** Collaborated with the Ministry **of Internal Affairs and Communication, Japan**, a government agency to develop a machine learning-based cybersecurity system, achieving an **87% accuracy rate** in identifying threats, thereby significantly enhancing national cybersecurity infrastructure impacting over **40% of Japan's population**.
- **Advanced Cross-Profile Technologies:** Excelled in applying NLP and XGBoost to enhance malicious IP detection by **4%**. Led the creation of 3 machine learning-based malicious databases, achieving a remarkable **99.97% accuracy rate**.
- Led a project that leveraged **satellite imagery** and machine learning to **identify landslides**, improving the accuracy of landslide detection by 10%.
- **Advanced Financial Data Analytics:** Expert in dissecting financial data to reveal key patterns and trends using advanced techniques like PCA and probabilistic autoencoders. Enhanced market trend predictability and risk assessment while fortifying data infrastructure through sophisticated SQL queries and robust ETL processes.
- **Interdisciplinary Project Expertise:** My diverse project portfolio covers classification, time series analysis, NLP, computer vision, and web development, with a keen focus on interdisciplinary applications. Notable projects include utilizing **AI for landslide identification** and integrating fluid dynamics with structural analysis for designing earthquake-resistant buildings.

**Passionate about staying up to date with the latest advancements** in the field and continuously improving my skills. In my free time, I engage in independent projects, showcasing a proactive commitment to ongoing skill development and practical application of knowledge.

## Skills

- **Programming Lang. and Frameworks:** Python | SQL | Matlab | SSH | Matlab Engine | Dask | PySpark | Databricks | Cuda |
- **Machine Learning :** Scikit-Learn | Sktime | XGBoost | LightGBM | Pandas | cuDF | dask-cuDF | NumPy | Numba |
- **DL & NLP :** NLTK | Transformers | Hugging Face | Image Recognition | GANs | PyTorch | TensorFlow | CNNs and RNNs |
- **DevOps:** Docker | Docker Compose | Docker Networking | Linux | CI/CD pipelines | Selenium | Web Scraping
- **Data Analysis & Visualization :** Data pre-processing | Feature engineering | Optuna | Bokeh | Tabelu | Matplotlib | Seaborn |
- **Big Data Technologies:** Spark | Hadoop | Big data tools |
- **Soft Skills:** Strategic Communication | Complex Problem-solving | Analytical Thinking | Project Management

## Experience

**Data Scientist and Software Engineer** ( NTT Advanced Technology, Kawasaki, Japan ) 2021 – Present

- Developed and implemented a machine learning-based system for analysing and visualizing **network traffic data**, resulting in the **detection of abnormal and malicious communications with an accuracy of 87% using Pyspark**.
- Developed a **3 cutting-edge malicious database** utilizing machine learning techniques to improve algorithmic performance, achieving an accuracy rate of **99.97%**.
- Enhanced system efficiency by 2% through innovative feature development in Python, SQL, PowerBI, and Tableau.
- Optimized software **multiprocessing capabilities** by upgrading and streamlining existing modules, resulting in increased efficiency and performance and **reducing time of operations on average by 8%**.

**Big Data Analytics in Cybersecurity:** Demonstrated expertise in big data handling, managing billions of rows in the cybersecurity project to enhance system accuracy and performance. Skilled in the complete machine learning lifecycle, from data collection to production, showcasing profound knowledge in big data technologies.

**Software Development Analyst** ( NTT Data, Pune India ) 2020 - 2021

- Developed and implemented a **full-stack web application**, serving as a Q&A forum for a product, featuring user authentication, question asking, liking, and answering functionality.
- Worked closely with business users and business analysts to understand functionality and propose creative solutions to meet business needs.
- Utilized **Agile Software Development methodologies** and honed skills in accurately estimating work time for user stories.
- Completed **software development lifecycle** from requirement analysis to test planning, test case development and test execution.

## Projects

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- [Identification of Critical Slopes using Satellite Imagery . GIS and Machine Learning :](#)  
Developed a **Landslide Susceptibility Map (LSM)** using AI and Geographic Information System (GIS) technologies to **minimize the impact of landslides on infrastructure and human life**. This project has the potential to **save lives** and reduce damage to property.
- [Elevating E-commerce Performance through Data Science and Strategic Marketing :](#)  
Elevated an emerging e-commerce fashion platform's performance through data-driven strategies. Achieved remarkable results including a 300% surge in site visitors, 2.3x sales growth, and a 20-22% reduction in churn rate, showcasing expertise in data science and strategic marketing. Models Used : **Churn and Segmentation Model**.
- [Classification and Recognition Projects :](#)  
Executed various projects across diverse domains, including: Image Classification | Image Recognition | Object Localization | Facial Expression Recognition | Face Detection | Cascade Classifier
- [NLP based Data-Driven Text Classification :](#)  
Crafted an end-to-end NLP and machine learning project, utilizing movie genre data to showcase expertise in Natural Language Processing and enhance text-based classification. Skills Used : Natural Language Processing, Machine Learning, Text Pre-processing, Feature Extraction, Linear Support Vector Machines.
- [Time Series Analysis :](#)  
TSA of Website Traffic | Developed and deployed a time series analysis model for website traffic and stock price forecasting on cloud platforms (GCP), utilizing LSTM models and deep learning autoencoders. This involved leveraging cloud computing resources for handling large-scale data and complex computations. Skills Used : Knowledge of statistical concepts such as probability, distributions, and hypothesis testing | Familiarity with time series models and concepts such as ARIMA, ACF, PACF, SARIMA, and SARIMAX

## Additional Skills and Strengths.

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- Cross-Functional Collaboration: Experienced in working in diverse and distributed team environments.
- Strategic Problem Solver: Recognizes business challenges suitable for AI/ML solutions, offering innovative problem-solving approaches.
- User Experience and Engagement: Understanding of user engagement metrics and strategies to enhance user experience.
- Data Visualization: Advanced proficiency in data visualization to effectively communicate complex data insights.
- Advanced Neural Network Techniques: Familiarity with transformers and attention layers.
- Recommendation Systems: Understanding of collaborative filtering and hybrid recommendation algorithms.

## Extras

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- Languages : English | Japanese | Hindi | Marathi
- Management Experience
  - Successfully organized, managed, and conducted campaigns for Events in Engineering (Sinhgad Karandak).
- Leadership Experience
  - Placement Coordinator for Indian Institute of Technology Hyderabad (IIT-H) and Sinhgad Technical Education Society , instrumental in facilitating successful student placements.
  - Treasurer for IGS-Hyd Chapter, demonstrating financial acumen and organizational leadership.
- Certified ML Expert: 8+ credentials in DL incl. regression, classification, & CNNs. See full list on LinkedIn: [Licenses & certifications | Kartik Pardeshi | LinkedIn](#)

## Education

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- **Post-Graduation (Masters)** Indian Institute of Technology Hyd (IITH) 2018 - 2020
- **Graduation** Pune University 2014 -2018