

Piyush Tandon

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Summary:

CAPM certified Data Science professional with experience in Automotive industry. Skilled in developing AI-driven solutions, analyzing large datasets, and implementing predictive models. Proven ability to lead cross-functional teams and manage the full data science project lifecycle, from data acquisition and model development to deployment and optimization. Expertise in leveraging data for decision-making, driving innovation, and ensuring timely execution of technical and strategic goals. Actively seeking Data Analytics role and open to relocation.

Skills:

- **Programming Languages:** Python, R, SQL, C++, HTML, CSS, Java
- **Machine Learning & AI:** TensorFlow, Keras, Scikit-learn, PyTorch, LLMs, Random Forest, SVM, NLP
- **Data Science:** Data Preprocessing, Feature Engineering, EDA, Model Deployment, Predictive Analytics
- **Generative AI:** GANs, LLMs, GPT, BERT
- **Data Visualization:** Tableau, Power BI, Matplotlib, Seaborn, Apache Spark, Hadoop
- **Cloud & Big Data:** AWS (SageMaker, S3), GCP (BigQuery), Azure
- **Frameworks & Tools:** Flask, Django, Docker, Git, Jupyter, FastAPI
- **Project Management:** Agile, SCRUM, Stakeholder Management, Risk Mitigation, Resource Planning
- **Development Practices:** CI/CD, Version Control (Git, GitHub)
- **Soft skills:** Experienced in working with cross-functional teams, ensuring alignment, and facilitating efficient project execution. Strong communicator capable of articulating technical and non-technical concepts to diverse audiences with strong presentation skills
- **International Experience:** Summer School Abroad at **University of Oxford**, Leadership Exchange program in **Istanbul, Turkey**

Work Experience:

Product Engineering Co-op

Jan 2024 – Aug 2024

Bendix Commercial Vehicle Systems – Kalamazoo, MI

- Engineered process improvements and optimized designs for heavy duty vehicle brake components using CAD and DFMEA.
- Utilized predictive modeling techniques to inform material selection and design approaches, improving product reliability.
- Participated in Design Review Council, Design Verification Plan and documenting key design changes.
- Spearheaded a project to build predictive models using Random Forest and Logistic Regression, analyzing truck system failure patterns with 92% accuracy.
- Developed a ML model for Legacy bracket cross reference with New gen brackets which resulted in reducing 90% of manual effort.
- Assisted in the creation of dashboards using Tableau, providing the leadership team with real-time insights into brake component reliability.

Engineering Intern

Jul 2023 – Dec 2023

UW Facilities-Engineering Services – Seattle, WA

- Analyzed HVAC systems, focused on heat recovery units and suggested improvements leading to reduced carbon footprint.
- Collaborated effectively with engineers, facility managers, and external contractors to ensure project success.
- Identified cost saving methods to save 3.8 million dollars/year and attain 45% reduction in carbon footprint.
- Managed cross-functional teams to develop and deploy machine learning models for predictive maintenance in HVAC systems, reducing downtime by 15%.
- Led project planning, scope definition, and stakeholder communication for data-driven projects in the HVAC domain.

Senior Analyst (Software and data)

Jul 2021 – Sep 2022

Capgemini Technology Services – Pune, India

- Drove continuous improvement initiatives by automating processes using Excel Macro, Oracle BI, improving efficiency.
- Led the data analysis for a product launch at Barclays Investment, utilizing 8D and Continuous Improvement (CI) methodologies to address process inefficiencies.
- Collaborated with cross-functional teams to collect and analyze data, improving system processes and reducing errors by 25%.
- Developed Tableau dashboards for senior management to monitor product performance, enabling data-driven decisions.
- Conducted A/B testing and statistical analysis to optimize product launch strategies and improve customer satisfaction.
- Assisted in automating data extraction pipelines, resulting in a 30% increase in data processing efficiency.

International Internship program

Feb 2020 – Aug 2020

Mercedes-Benz US International – Tuscaloosa, AL

- Led data-driven optimizations of assembly line layouts for GLE and GLS models, reducing takt time, increasing production by 2%.
- Utilized Python and SQL to analyze production data, identifying key bottlenecks and proposing solutions that improved workflow.
- Developed predictive models using historical production data to forecast equipment downtime, reducing maintenance by 15%.
- Conducted time series analysis of assembly line performance metrics to identify patterns and inform process improvements.
- Collaborated with cross-functional teams to design dashboards in Power BI, enabling real-time monitoring of key performance indicators (KPIs) such as takt time, cycle time, and production efficiency.

Projects:

- Tiny ML ("Good Help")

Jun 2023 – Present

 - Led the design and development of a voice-activated panic detection system using ML for healthcare applications, managing a team of developers and data scientists.
 - Managed the project's budget, resources, and timelines, ensuring a successful deployment within the stipulated deadline.
 - Coordinated the integration of AI model into mobile apps and ensured real-time notification capabilities using Firebase.
 - Created the CAD model for a wearable watch that integrates the voice-activated panic detection system, focusing on ergonomic design and practical functionality.
 - Collaborated with the team to ensure that the CAD design aligned with the hardware and software requirements of the project facilitating seamless integration of the technology.

- NASA JPL (Grad Capstone)

Jan 2023 – Jun 2023

 - Led the team as **project manager** and assisted a team of CS professionals in developing ML Model for Multi Static Lunar GPR.
 - Led the data acquisition phase by collaborating with engineers and scientists to gather large-scale sensor data from various lunar ground-penetrating radar (GPR) systems. This included extracting structured and unstructured data from hardware logs, telemetry data, and operational reports.
 - Implemented data preprocessing pipelines in Python, using libraries like Pandas and NumPy to clean, normalize, and transform raw sensor data, ensuring it was formatted correctly for model training.
 - Integrated data from multiple sources, including satellite telemetry, radar scans, and maintenance logs, to create a comprehensive dataset for machine learning models.
 - Used data augmentation techniques to expand the dataset by generating synthetic samples through techniques such as GANs (Generative Adversarial Networks), which helped address the issue of limited real-world data.
 - Developed custom scripts to automate the data collection process from remote databases and cloud storage, ensuring continuous data ingestion for real-time model updates.
 - Analyzed the quality of data using EDA (Exploratory Data Analysis) and performed feature selection to identify the most relevant parameters that affected equipment failures.
 - Collaborated with domain experts to refine data labeling processes, ensuring accurate tagging of anomalies and system malfunctions for supervised learning tasks.

- Grainer (Undergrad Capstone)

Sep 2020 – May 2021

 - Led the team as **project manager**. [Grainer website](#)
 - Collaborated with faculty advisors and stakeholders to ensure the project met academic and sponsor expectations.
 - Defined project scope, deliverables, and objectives, providing structure and direction to the team.
 - Identified potential risks and implemented mitigation strategies to keep the project on track and avoid delays.
 - Managed resource allocation, coordinating team efforts to ensure timely completion of tasks.
 - Tracked project timelines and milestones, adjusting schedules as needed to ensure on-time delivery.
 - Maintained the project within budgetary constraints set by the academic program, ensuring efficient use of resources.
 - Conducted quality reviews, ensuring that final deliverables met academic standards and project goals.

Education:

- Masters of Science in Mechanical Engineering with Data Science Specialization GPA 3.72

Sep 2022 – Aug 2024

University of Washington, Seattle, WA.
- Bachelor of Engineering in Mechanical Engineering (CS Minor) GPA 8.13/10

Jul 2017 – Jul 2021

Thapar Institute of Engineering & Technology, Thapar University, India.

Leadership Activities:

- Leadership Exchange Program Participant – AIESEC, Turkey**
Collaborated with an NGO to promote cultural exchange and worked towards UNESCO's Sustainable Development Goals in education. Led educational workshops and facilitated cross-cultural understanding among participants.
- Team Lead – Capgemini Technology Services**
Supervised a team of analysts, driving process improvements and delivering key data solutions for Barclays Investment using 8D and Continuous Improvement methodologies.
- General Secretary – Global Internship Council, Thapar University**
Oversaw the council's activities, coordinated internships for students, and facilitated global opportunities.
- Head of Media Team – Thapar University**
Led a team responsible for managing the university's media communications, digital campaigns, and public relations.
- Social Media Chair – Mechanical Engineering Graduate Association, University of Washington**
Managed social media platforms for the association, promoting events and initiatives, and increasing student engagement within the graduate community.

Certifications:

- Certified Associate in Project Management (CAPM) – PMI
- Computational Thinking and Data Science – MITx

Languages:

English(Proficient), French(Basic), German(Basic)