

Amit Bharti



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📍 Groningen, Netherlands (Willing to relocate)

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👤 PROFILE

Dynamic and passionate AI and Machine Learning professional with a robust foundation in statistics, mathematics, and advanced programming. Proven expertise in deploying innovative algorithms to tackle complex, real-world challenges. Adept at keeping abreast of the latest developments in AI, with a keen focus on contributing groundbreaking solutions for data-driven decision-making. Driven by the pursuit of excellence in AI research and application, eager to bring cutting-edge insights and methodologies to progressive teams in the field.

</> CORE COMPETENCY

Data Pipeline and ETL
Exploratory Data Analysis
Feature Engineering
Machine Learning Algorithms
Model Evaluation and Tuning
Optimization Techniques
Time Series Analysis
Anomaly Detection
Deep Learning Specialization
Transfer Learning
Continuous Integration / Continuous Deployment
Containerization
Model Deployment
Version Control of Data, Models and Pipeline
Machine Learning Operations
Business Acumen
Collaboration and Communication Skills

📁 PROFESSIONAL EXPERIENCE

Machine Learning Intern, DSM (Dutch Summer of AI 2022) 🌐

Jul 2022 – Aug 2022 | Amsterdam, Netherlands

- Strategic cost optimization in procurement of fish oil for DSM :
- Executed comprehensive data collection, spotlighting key problem statement features to drive informed decision-making.
 - Applied advanced time-series analysis to forecast and enhance the optimization of fish oil procurement. This resulted in an annual cost reduction of 5%, reinforcing cost-effective sourcing strategies.
 - Elevated model resilience against disruptive events by implementing sentiment analysis on web-scraped data using text mining techniques.

Computer Vision Student Researcher, University of Göttingen

Jan 2023 – Apr 2023 | Göttingen, Germany

- Urban tree cover segmentation from aerial imagery:
- Implemented advanced deep learning techniques, including U-Net, and DeepLabV3, coupled with transfer learning. Achieved a remarkable average Intersection over Union (IoU) score of 0.79.
 - Validated the model's robustness through its successful application on different datasets, showcasing its adaptability and potential for applications in forest management and remote sensing.

Automotive Simulation Engineer, Tata Technologies 🌐

2016 – 2020 | Pune, India

- Boosted performance by 10% through deploying various analytical methods, including statistical analysis, resource allocation, downtime reduction, and space optimization.
- Performed mathematical validation and simulation employing advanced modeling approaches to extract meaningful insights, validating system performance and informing decision-making.
- Identified bottlenecks and improved system efficiency through proactive scenario optimization and sophisticated what-if analysis, utilizing data science techniques to forecast potential outcomes and drive continuous improvement.

📁 PROJECTS

Story of Amsterdam Airbnb

Jan 2023 – Mar 2024

- Developed a predictive model using the Airbnb Amsterdam dataset to forecast rental prices, utilizing machine learning algorithms such as XGBoost and LightGBM.
- Engineered features from raw Airbnb listing data and implemented a scalable pipeline for data preprocessing, model training, and evaluation.
- Deployed the predictive model into production using Docker and cloud platform AWS ensuring seamless integration and scalability.

Handwriting Recognition on the Dead Sea Scrolls Data

Apr 2022 – Jun 2022

- Applied a sophisticated line segmentation algorithm rooted in histogram analysis, coupled with contour tracing methods, to achieve precise text localization. The implementation featured advanced computer vision techniques using Python, OpenCV, and NumPy for efficient image processing.
- Developed and fine-tuned a diverse set of character recognition models, prominently featuring an innovative model based on the AlexNet architecture. This model, initially trained on the MNIST dataset, was further optimized for the intricate task of Hebrew character recognition, showcasing adaptability to different languages and scripts.
- Utilized transfer learning methodologies to enhance model generalization, demonstrating the versatility of the character recognition models across various datasets and linguistic contexts.

Post-editing stylometry to identify translator and modality.

Feb 2022 – Apr 2022

- Designed and executed a robust Natural Language Processing (NLP) pipeline, achieving an impressive 83% accuracy in subject identification and a notable 65% accuracy in modality identification. Employed Python and popular NLP libraries such as spaCy and NLTK to implement advanced linguistic analysis.
- Leveraged a combination of linguistic and behavioral data, incorporating intricate features such as part-of-speech tagging and cognitive metrics.
- Applied statistical validation techniques and implemented cross-validation to enhance the robustness of the model.



TECHNICAL SKILLS

Python	● ● ● ● ●
Keras	● ● ● ● ●
TensorFlow	● ● ● ● ●
PyTorch	● ● ● ● ●
Git	● ● ● ● ●
MLflow	● ● ● ● ●
Docker	● ● ● ● ●
GitHub Actions	● ● ● ● ●
DVC	● ● ● ● ●
AWS	● ● ● ● ●
AWS Sagemaker	● ● ● ● ●
Azure	● ● ● ● ●
PostgreSQL	● ● ● ● ●
Numpy	● ● ● ● ●
Pandas	● ● ● ● ●
Sklearn	● ● ● ● ●
SciPy	● ● ● ● ●
XGBoost	● ● ● ● ●
NLTK	● ● ● ● ●
spaCy	● ● ● ● ●
Linux	● ● ● ● ●
R	● ● ● ● ●



PERSONAL TRAITS

Attention to details | Problem-solving
Go-getter | Innovative | Communication
Eager to learn new things | Team Player



INTERESTS

Badminton | Motor Biking | Cooking



LANGUAGES

English | Hindi | German



REFERENCES

Dr M.A. (Matias) Valdenegro Toro,
Assistant Professor for Machine Learning,
University of Groningen
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M.A. (Maruf) Dhali,
Assistant Professor in Artificial Intelligence,
University of Groningen
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Molecular classification of Acute Myeloid Leukemia

Sep 2021 – Oct 2021

- Conducted in-depth exploratory data analysis and feature engineering employing advanced techniques, including Eigen-value decomposition, ANOVA, PCA, and tSNE.
- Executed diverse classification experiments utilizing kNN and Decision Trees. Proactively addressed data imbalances, implemented measures to mitigate overfitting issues, and systematically elevated model effectiveness.



AWARDS

Best Pitch, Dutch Summer of AI

- Won best pitch award in Dutch Summer of AI where we presented our findings of the internship with DSM.

Best Project Team of the Year, Tata Technologies Limited

- Won best project team award for Digital-Twin (Rolls-Royce), and TCF assembly line simulation (TATA Motors).

AICTE Scholarship, Indian Government's council for technical education

- Owing to my outstanding academic excellence, I received AICTE scholarship during my undergraduate study.



EDUCATION

Master's in Artificial Intelligence, University of Groningen

Sep 2021 – Aug 2023 | Groningen, Netherlands

- Courses : Data Science, Machine Learning, Deep Learning, Image Processing, Computer Vision, and Natural Language Processing
- Thesis : Estimating visual dataset quality using self-supervised learning with uncertainty
- GPA : 7,8

Honours Master's in High Tech Systems and Materials,

University of Groningen

Oct 2021 – Jan 2023 | Groningen, Netherlands

- Intensive program teaching skills along with offering hands-on experience and insights into successful product development.
- Internship : Designed and built a meteor finder with ASTRON
- GPA : 8,3