Pankaj Mishra [Ph.D.]

[Ph.D. in Artificial Intelligence and Computer Vision]

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EXPERIENCE

K-Lens gmbh, *Germany — Senior AI Research Scientist*

Sept 2023 - PRESENT

Selectron Systems, *Italy — AI and Cybersecurity Expert*

Jan 2023 - June 2023

Neurala Europe Srl, Italy — *AI Research Scientist*

Jan 2022 - Dec 2022

Airbus India, India — *Assistant Engineer Analyst*

Jan 2015 - Sept 2016

[subcontracted by AxisCADES] FEA and CAE

Safran Engineering Services, India — *R&D Stress Analyst*

Dec 2013 - July 2014

Mostly worked with Finite Element Methods

EDUCATION

University of Udine, Italy — *Ph.D.*

Nov 2018 - Oct 2021

The Ph.D. explores the novel "Deep Neural Network" for complex classification tasks in real-world industrial scenarios. Work majorly focuses on anomaly detection and computer vision. Industrial Sponsored Researcher (by beanTech srl). 7 strong international publications in 3 years of Ph.D.

InterMaths, Italy and Poland — *Dual Masters*

Sept 2016 - July 2018

Masters in Interdisciplinary Mathematics in Engineering and Finance. Spent two years at two different universities. Recipient of full scholarship.

Aeronautical Engineering, India — *Bachelor's Degree*

Sept 2009 -July 2013
Department Topper with Distinction

SKILLS

Artificial Intelligence and Machine learning, Transformers, Prompting

Image classification, detection, segmentation, feature learning, feature extraction, feature Matching, anomaly detection, anomaly localization, camera setting, optical flow, classical CV, and multi-view image processing.

Statistical Data Analysis, Data cleaning, data normalization, data transformation, data visualization, predictive analytics, dashboards, rule mining, mathematical modeling

Tools

R, Python, C/C++, MS-Excel, Tableau, WEKA, SciKit, Numpy, pandas, SciPy, polar, Pytorch, ONNX, CUDA OpenCV, ONNX, OpenVino, Tableau, SQL and Non-SQL databases, Git, Docker, Linux.

LANGUAGES

English, Hindi, Italian, German

VISA

USA/B1, Italian Work Permit, German Work Permit

PROJECTS

- **Asset Threat Sentinel [SWITCHES]**

  New Product Development

  Leading the development of the device ATS (Asset Threat Sentinel) for active surveillance of the data flow to and from any industrial machine connected to the network. It works at wire speed, therefore without introducing any type of communication delay, moreover, the use of machine learning and Artificial Intelligence algorithms allows an automatic configuration phase.

  Tools Used: Yocto Project, Network Security, Cybersecurity, Team Building, Python/C, Docker, Research, git, ML.

- **Life Long Learning Transformer for 1D and 2D Anomaly Detection**

  New Product Development

  Conceptualised & Developed a novel transformer-based model with Neurala patented lifelong learning tech, capable of continuous learning. The product became part of the standard offering from the company for AI-assisted quality control solutions.

  Tools used: Python, Pytorch, research skills, ONNX, git Docker, open-CV.

- **(VT-ADL)Vision Transformer for Image Anomaly Detection and Localization**

  Research project

  Developed a novel method for image anomaly detection and localization(segmentation) in an unbalanced dataset, using unsupervised learning by adapting a transformer network.

  Tools used: Python, Pytorch, research skills

- **Real-Time iron bar counter**

  New Product Development for a major player in the Iron and Steel sector.

  Project developed from a research idea to implementation, for an automatic iron bar counter at the iron test bed. The product became an off-the-shelf tech product for the client.

  Tools used: Python, C++, ONNX, AI, Object detection, tracking, Object identification, segmentation, OpenCV

- **Real-Time Person distance tracking for Covid safety**

  Welfare research project

  Turned a simple person detection AI model for real-time distance measurement during the initial days of Covid. The code and idea have later been used by many in Italy and abroad to deploy this on their premises or for conferences.

  Tools used: Python, object detection, transfer learning, tracking, DLib, OpenCV

CERTIFICATES, AND LICENSES

- **Data Science: R Basics (HarvardX: PH125.1x) -** edX
- **Data Science with Data Camp -** DataCamp
- **DAT236x: Deep Learning Explained -** Microsoft
- **DEV210x: Introduction to C++ -** Microsoft
- **Product-led Certification,** Pendo.io

Honors, Awards, and Accolades

- Ph.D. Grant by External Institution (beanTech srl), 2018 – Grant covers the Ph.D. scholarship and all research costs during the period of my Ph.D. research.
- Research Grant from Italian Ministry of Defense (171/2016), 2018 – Grant covers the cost of research for developing AI solutions for complex classification tasks for highly skewed data.
- Hackathon Uniud Winner, 2019 – Won Hackathon organized by the University of Udine in June 2019 by providing deep learning solutions to an industrial problem within 24 hrs.
- Erasmus+ Grant – Erasmus grant covers all the expenses of a dual master's degree in Italy and Poland.
- Erasmus Social - Erasmus Student Network, Nov 2017, awarded for participating in the Social Erasmus programs organized by Erasmus Student Network, Poland.
- Achievement of Merit - Feroze Gandhi Institute of Engineering and Technology, Sep 2010, Awarded for the best performance in academics in the year 2009-2010.
- edX Grant – Received grant from edX which covered 95% of the certification cost for 1) Basic in R – by Harvard University 2) Deep Learning Explained and C++ by Microsoft.

Social and Public Presence

GitHub [/pankajmishra000]

LinkedIN [/in/pankaj-mishra-ph-d-86898140/]

Google Scholar [Profile]