

MAYANK JAIN

AI Architect, CV, NLP, Deep Learning Expert, Author

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SKILLS

Experienced technologist with a strong proficiency in architecting AI-led solutions, specializing in areas such as computer vision, natural language processing, and deep learning.

Good experience in data science, utilizing advanced techniques and algorithms to extract insights from complex real world datasets.

Passionate problem solver with a strong desire to assist and mentor individuals facing difficult challenges, providing support and guidance.

Versatile professional with a diverse skill set, adept at handling various tasks and projects effectively.

WORK EXPERIENCE

EXL Service

Assistant Vice President

May 2021 - Present

EXL Digital - AI and Analytics

Roles and Responsibilities:

- Lead the architecture, implementation, and successful delivery of multiple AI-led digital solutions across diverse client projects and verticals at EXL Digital.
- Successfully grow and lead a team of ML engineers at EXL, fostering a collaborative environment for innovation and excellence.
- Collaborate closely with the Cloud Infrastructure team to design cost-effective and scalable solutions, leveraging my experience in MLOps.
- As a solution owner, work closely with business and operations teams to create cost-benefit analyses and attractive pricing for clients, incorporating pricing feedback to optimize solution architecture.

Some notable AI Led solutions/projects at EXL:

- **EXL Smart Audit and Digital Voice Assistant** (Sept 2022 - Present): EXL Smart Audit is an AI-based quality audit solution that enhances audit coverage without increasing costs, It leverages technologies such as speech-to-text, intent recognition, and entity extraction, as well as integration with third-party solutions, to perform audits similar to those conducted by human auditors. Enabling human auditors to concentrate on high-risk and edge case call audits. The Digital Voice Assistant is an solution built on foundation and learning's of the EXL Smart Audit solution that boosts agent performance and enhances customer care outcomes. It achieves this by utilizing real-time speech-to-text, entity and intent recognition, and ChatGPT-powered QnA features. The solution incorporates various technologies such as speech transcription, entity extraction, and intent recognition. Additionally, it utilizes Speech-to-Text using custom Whisper-based pipelines, Azure Speech to Text, Amazon Transcribe, OpenAI API, and AWS Services. By combining both of these solutions, agent performance is continuously monitored and improved at scale, resulting in reduced call times and improved customer satisfaction.
- **EXL XTRAKTO.AI™** (May 2021 - Present: XTRAKTO.AI™ is an intelligent document processing solution powered by AI and cloud technologies that can convert unstructured content into structured data. As an enterprise IDP solution, it is template agnostic and can be scaled across multiple use cases, with a thin human-in-the-loop layer to ensure the operationalization of AI models for end-to-end value generation. By utilizing XTRAKTO.AI™, clients can achieve highly accurate information

at significantly high speed and lower cost, resulting in improved process efficiencies, new data assets, and insights for competitive advantage and market growth. In my role, I have led the development and enhancement of this solution tailored to multiple client projects. The technologies involved include Python, NLP, Content Extraction, signature detection, document and title classification, LayoutLM, TensorFlow, Spacy, Transformers, AWS Textract, AWS Lambda, and AWS Sagemaker. For more information about EXL XTRAKTO.AI, please visit <https://www.exlservice.com/digital-and-ai/digital-solutions/exl-xtrakto-ai-and-nlp-power-content-extractor>.

- **Lead of Insight Center of Excellence for a major insurance client** (Dec 2022 - present): Managed a team of data scientists to uncover valuable insights, collaborating closely with operations and quality teams to enhance process efficiency. Implemented cutting-edge technologies including Python, NLP, Clustering, SQLite, and PowerBI for the project.
- **EXL Smart Email** (May 2021 - Sept 2022): Contributed to the development and improvement of EXL's smart email automation solution, and implemented it for key clients. The project utilized technologies such as Python, NLP, Intent and Entity extraction, Rasa, Transformers, Spacy, AWS Lambda, AWS Sagemaker, and AWS EC2.

Sapient Consulting Pvt. Ltd. (PUBLICIS.SAPIENT)

Aug 2014 - May 2021

Manager Technology, KeplerLab

- **Katna:** Developed a tool to automate common video key-frame extraction, image auto-crop, and image resize tasks, resulting in thousands of man-hours saved across multiple projects. **Technologies:** Python, image processing, video key-frame extraction, OpenCV, FFMPEG. **Code repository:** github.com/keplerlab/katna
- **Alternat:** Led the development of an open-source toolset aimed at lowering the barrier for adopting accessibility solutions. Alternat generates default, intelligible alternative text for images on websites, helping to solve website accessibility challenges. **Technologies:** Python, PyTorch, Azure and Google Cloud API, Node.js, JavaScript, Docker. **Documentation:** alternat.readthedocs.io
- **Idea2Life:** Real-time recognition of web components from templates and sketches to make responsive websites, powered by deep learning. Technologies: YOLOv2/Darknet, TensorFlow, Python, Node.js, JavaScript, Docker. github.com/keplerlab/idea2life
- **Interactive Mirror Installation (IMI):** Deep learning-based smart retail assistance for physical stores, solving the inventory visibility problem. Technologies: YOLOv2/Darknet, TensorFlow/Keras, Faiss, object detection, object classification, apparel classification, content-based image retrieval, Python, Node.js, JavaScript, Docker. the-mirror-reimagined-a-smart-shopping-assistant-for-the-retail
- **AI in Content Creation:** Use of machine learning and deep learning for delivering efficiency to content processes, including NLP, deep learning-based text summarization, headline generation from article text, document tagging, topic modeling, content-aware image cropping, and more. Technologies: TensorFlow/Keras, Python, Node.js, JavaScript, Docker.
- **Taj AR App:** Combining deep learning with augmented reality for an interactive tour guide using iOS CoreML and ARKit. Technologies: iOS CoreML and ARKit, TensorFlow, Darknet, Python, Swift. experiencesutra.com/experiments/reimagining-the-tour-guide
- **Neural Creativity, Hand-drawn Sketch Recognition:** Use of deep convolutional neural network to recognize hand-drawn sketches with over 70 percent accuracy, using a custom HTML5 game engine to bring childhood imagination to life. Technologies: Caffe, Python, OpenCV, C++, Node.js, JavaScript. github.com/keplerlab/neuralCreativityServer, youtube.com/watch?v=VajzcTbMobA
- **Autolysis, Combining Art with Technology:** Collaboration project with renowned artist Asim Waqif to use the message of decay through technology, using computer vision techniques to bring his ideas to life. Technologies: C++, OpenCV, JavaScript. youtube.com/watch?v=8NHU-L58fdw
- **ObjecTable, Augmented Everyday Object Experience:** One of the very first experience projects built out of Kepler Lab, the table recognizes what is on top of it using a simple webcam and changes its

UI accordingly. Technologies: OpenCV, C++, Node.js, JavaScript. awards.designforexperience.com/gallery/2014/that-makes-a-difference/sapientnitro-0

Samsung Research Institute - Delhi (SISC)

Senior Software Engineer

Feb 2013 - Aug 2014

Advanced Research Group

- Point Cloud Processing Research Project (Aug 2013 - Aug 2014): Conducted research in collaboration with IIT Delhi (Prof. Prem K Kalra, Dr. Subodh Kumar, and Dr. Subhashish Banerjee) to process point cloud data. Technologies used: PCL, Eigen, OpenGL, OpenCV, C++
- Visual Attention Modeling System (Mar 2013 - Aug 2013): Developed a system to detect a person's attention while in front of a display using a combination of face and eye tracking. Technologies used: OpenCV, C++

TCS (TCS Innovation Labs, Delhi)

Researcher

Dec 2009 - Feb 2013

Computer Vision and Robotics Group

- Topological SLAM with Visual Fingerprinting (Aug 2012 - Feb 2013): Built a visual signature of places already seen to create topological SLAM using the bag of words approach. Technologies used: OpenCV, C++, ROS
- Face-Based Video Indexing (Early 2012): Developed a video indexing system based on face tracking. Technologies used: OpenCV, C++, Qt
- Real-Time Human Avatar Model Tracking System (2011): Used a Kinect mounted in front of a person's body to perform iterative search and tracking of the human body in each video frame. Image and depth data were manipulated and transformed to local coordinates of an avatar model, and used for real-time tracking of the human body in the virtual world. Technologies used: OpenNI, OpenCV, Visual C++
- Browsing Behavior Analysis in Retail Stores (Mid 2011): Analyzed customers' browsing behavior in a retail store using a Kinect mounted on a shelf. The system used depth segmentation of the 3D environment, together with unsupervised clustering of human poses, to classify different activities. Technologies used: OpenCV, Qt, C++
- Hand-Raise and Face Motion Detector (2010): Developed a module for a virtual reality product that detects hand-raising and face and shoulder motion detection of a person in front of a webcam. Technologies used: OpenCV, Qt

BOOK PUBLICATION

- *Ensemble Learning for AI Developers*, <https://www.springer.com/de/book/9781484259399>

COMMUNITY AND INTERNAL ENGAGEMENT:

- Collaboration with teams outside of AI and Analytics, such as Sales, Marketing, and Operations, to identify opportunities for AI adoption.
- Leading the efforts in training new joiners by actively participating in the organization's induction programs, while also actively contributing to the learning and development of new joiners and non-AI developers by teaching and mentoring them in AI.
- Organize workshops, "Learn something new" sessions, webinars, and sessions on Deep Learning and Machine Learning to share practical knowledge, new technologies, and best practices.
- Speaker at GIDS 2019 on the topic of a primer on Ensemble Learnings.
- Speaker at GIDS 2016, a prominent developer conference, presenting on the topic of "Machine Learning for Everyday Experiences." [Link: [link](#)]

PATENTS

- *Method and Apparatus for Environmental profile generation at Samsung Research Delhi* ; <http://www.google.com/patents/WO2016022008A1>
- *A System and Method for Estimating Human Upper Body Pose from Single Image*; Application No. 1831/MUM/2011
- *A System and Method for Tracking Multiple Faces with Appearance Modes and Reasoning Process*; Application No. 1959/MUM/2011
- *A System and Method for Face based Video Indexing in a Video*; Application No. 2254/MUM/2011

PUBLICATIONS AND TALKS

- Nipun Pande, Mayank Jain, Dhawal Kapil and Prithwjit Guha, *The Video Face Book*, The 18th International Conference on Multi Media Modelling (MMM 2012), Klagenfurt (Austria), January 4-6, 2012
- Prithwjit Guha, Mayank Jain, Nipun Pande and Tavleen Oberoi, *Multiple Face Tracking with Appearance Modes and Reasoning*, The 15th International Conference on Image Processing, Computer Vision and Pattern Recognition (ICCV 2011), pp. 375-380, Las Vegas, July 18-21, 2011
- [Using blockchain technology for loyalty schemes](#)

INTERNSHIPS

National ICT Australia , IIIS Griffith University May 2008 - July 2008
Visiting Researcher *Smart Applications for Emergencies (SAFE) Group*

- Development of Heuristic for solving Boolean satisfiability problem solver using stochastic local search approaches.

Arcelor Mittal Steel plant, Kazakhstan May 2007 - June 2007
Intern *ArcelorMittal Temirtau*

- Hands on experience By Network Configuration and Monitoring of Temirtau City network.

TECHNICAL STRENGTHS

Computer Languages	C, C++ , Python , Javascript
Skills	Computer vision, Natural Language processing, Machine Learning/Deep Learning
Platforms	GNU/Linux, Windows Environments , Mac OS X
Tools	PyTorch, Tensorflow, Keras, Docker, OpenCV, Google Cloud, AWS, Git, NumPy/Scipy/Pandas/matplotlib, ROS, MS Visual Studio, Xcode, L ^A T _E X

EDUCATION

Laxmi Niwas Mittal Institute of Information technology, Jaipur *2005-2009*
 B.Tech. in Computer Science & Engineering
 Overall CGPA: 7.73

Kendriya Vidyalaya Number 1 Jaipur, CBSE Board *2003-2004*
 AISSCE 2004 (XII) in Science Maths
 Overall Percentage: 79%

Kendriya Vidyalaya Number 1 Jaipur, CBSE Board *2001-2002*
 AISSE 2002 (X)
 Overall Percentage: 70.2%

PERSONAL DETAILS

Date of Birth	12th May 1987
Sex	Male
Nationality	Indian
Marital status	Married
Languages Known	English , Hindi
Interests	Reading, Writing, Programming/Tinkering, Current affairs, Market and Economics