

NISHANK SINGHAL

NY 07304 | nishank20singhal@gmail.com | 551-998-4378 | [LinkedIn](#) | [GitHub](#)

PROFESSIONAL SUMMARY

I am an AI Software Engineer with dual master's degrees in Advanced Computing and Data Science, specializing in AI/ML infrastructure, MLOps, and cloud deployments, with a focus on GPU clusters and high-performance computing. At Virtual Dental Care, I led projects enhancing diagnostic accuracy and patient engagement using AI technologies like real-time object detection and chatbots, proficient in Python, TensorFlow, PyTorch, and managing systems in Oracle Cloud environments. My academic and professional background in Machine Learning, High Performance Computing, and Cloud Computing enables me to optimize AI solutions for complex challenges.

EDUCATION

Pace University, Seidenberg School of Computer Science and Information Systems	New York, NY
Master of Science (MS) in Data Science GPA: 3.87	May 2023
University of Bristol	Bristol, UK
Master of Science (MS) in Advance Computing Concentration: Machine Learning, Data Mining & HPC	January 2021
Birla Institute of Technology and Science (BITS)	Dubai, UAE
Bachelor of Engineering (BEng) in Computer Science Honors	July 2018

PROFESSIONAL EXPERIENCE

Virtual Dental Care, USA AI Software Engineer [link]	July 2023 to Present
- Led the deployment of YOLO, ResNet, and DNN models, achieving 80% accuracy in detecting dental issues using a dataset of 16,000 images, integrated via Azure ML pipelines with a focus on MLOps practices. - Managed enhancements of a Large Language Model for improved patient-bot interactions, increasing satisfaction by 50% through rigorous model optimization and integration with business platforms. - Developed a pix2pix generative AI model for real-time dental aesthetic visualization, achieving 85% accuracy in patient outcome simulations, configured in cloud environments using Oracle Cloud. - High-Performance AI Computing Initiative: Spearheaded the integration of HPC environments and NVIDIA A100 GPU clusters to accelerate AI-driven molecular dynamics simulations, enhancing computational throughput and accuracy in predictive analytics. - Deep Learning Infrastructure Development: Developed and deployed deep learning models using TensorFlow and PyTorch on scalable GPU clusters (H100, A100) for real-time image and speech recognition applications, significantly reducing latency and improving model performance.	
Robotics Lab Pace University New York, NY Data Analyst Graduate Research Assistant [link]	May 2022 – Dec 2022
- Created a speech clutter disorder classification, conducted digital signal processing and trained 3,000 audio-records using acoustic feature vectors a deep neural network (DNN) model with K-fold validation using Python, Librosa, TensorFlow, Torch, and Keras, achieving 85% accuracy on test records. - Developed MLP-based, LSTM-based, and Transformer-based neural network architectures, achieving a testing accuracy of 82%. [link] - Setting up the 3-way cross-platform interaction between Jackal (ROS) to Python and Python along with the PIFUHD model. [link]	
ByteLearn Delhi, India Data Analyst	Jan 2021 – Dec 2021
- Designed and implemented a complete Machine learning architecture pipeline from scratch utilizing Machine Learning Operations (MLOps) pipelines and procedures that helped team deploy new features at ease. - Implemented NLP in understanding the question by some keywords that are extracted from images using OCR to detect [link] the content and shape and developed a flask application to output a video based explanation for the solution. [link]	
Indian Institute of Science Bangalore, India Computer Vision Engineer Research Assistant	Sep 2018 – Dec 2018
Worked on optimization of YOLOv3, Zero-Short-Learning, and GANs algorithms and reduced their training time by 50%.	

KEY SKILLS

→ Data Visualization, → Predictive Analysis, → Statistical Modeling, → Training & Mentoring, → Cluttering & Classification, → Data Analysis, → Data Mining, → Quantitative Analysis, → ML Algorithms, → Model Development , GPU Clusters HPC Envirment

TECHNICAL SKILLS

Python, C++, JavaScript, SQL, Java ,TensorFlow, Keras, PyTorch, Scikit-learn, Pandas, NLTK Reinforcement Learning, Supervised Learning, Data Wrangling, Model Evaluation, Deep Learning, NLP, Reinforcement Learning, Computer Vision, Power BI, CUDA, cuDNN, NVIDIA NCCL, RPM, Conda, pip, Bash, Shell, Cron, system, Ubuntu, CentOS, SLURM, MPI, OpenMPI, Docker, Kubernetes, nvidia-smi, htop, top, iostat, perf, Oracle Cloud Infrastructure (OCI), NFS, SSD arrays

PUBLICATIONS AND AWARDS

Y. Liang, N. Singhal, and P. Benjamin, "[High-Dimensional Spaces Motion Planning for Robotic Arm in Dynamic Environment](#)"

N. Singhal, "[Image Inpainting Removing Things or Persons and Reproducing Background Textures using Deep Learning](#)"

N. Singhal, Srishti, Kalaichelvi "[Application of Convolutional Neural Network to Classify Sitting and Standing Postures](#)"

Certifications: [Structuring Machine Learning Projects](#), [Sequence Models](#), [Convolutional Neural Networks](#)

HACKATHONS

1st Prize in Data Iku Hackathon at Lubin School of Business (Pace University)	November 2022
Led a team of 3 to analyze data on characteristics of chocolate to find out what makes a chocolate likable. [link]	
1st Prize for Innovative App Development, AngelHack-UAE	September 2016