

# Rishik Mishra

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## EDUCATION

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Master of Science in Computer Engineering, **New York University** (09/2022 - 05/2024)

- Relevant Coursework: Digital Signal Processing, Machine Learning, Interactive Medical Robotics, Real-Time Embedded Systems

Bachelor of Technology in Computer Science, **Gla University** (08/2018 - 07/2022)

- Relevant Coursework: Introduction to Machine Learning, Big Data, Digital Image Processing, Python Programming, Agile Software Development, Database Management

## WORK EXPERIENCE

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**Computer Vision Intern**, KoiReader Technologies (05/2021 - 08/2021)

- Engineered an efficient OCR suite using Python, achieving a 13.7% improvement in word recognition accuracy and a 22% reduction in processing time
- Collaborated with cross-functional teams to deliver projects on time, conducted daily status updates with stakeholders, and identified potential roadblocks to mitigate risks

**Freelance Machine Learning Consultant** (02/2020 - 03/2022)

- Built machine-learning projects for private clients and companies
- Achieved 92% accuracy in oesophageal lesion classification
- Reduced report generation time by 75% through automation
- Created an image tagging system for e-commerce sites, reducing product posting time by 60%

## SKILLS

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**Programming Languages:** Python, Java, C++, C, Swift, JavaScript

**Data Science and Machine Learning:** R, OpenCV, Tesseract, Scikit-learn, NumPy, Pandas, SQL, Tensorflow

**Web Development:** Django, HTML/CSS, NodeJS, AngularJS, React Native, XML, Rest API

**Cloud Computing and DevOps:** AWS, Azure, GCP, Jenkins, GitLab CI/CD, Ansible, Linux

**Data Storage and Management:** MongoDB, MySQL, Cassandra, Excel, Tableau, Power BI, NoSQL

## PROJECTS

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**Early Parkinson's Detection**

- Developed and validated a computer-aided diagnostic algorithm using Python, TensorFlow, and Keras that increased the accuracy of Parkinson's disease detection by 15% compared to existing methods, reducing cross-examiner variability and time requirements.

**Depression Detection in Social Media Users**

- Designed and trained a hybrid Bi-LSTM + CNN model using Python, TensorFlow, and scikit-learn that exceeded previous works in precision and recall by 12% and 10%, respectively, demonstrating superior performance in identifying depressive symptoms in social media posts.

**Frame Rate Enhancement Using GANs**

- Contributed to developing a novel Generative Adversarial Network (GAN) model using PyTorch that generated high-quality intermediate frames in real-time, resulting in an average conversion time of 3.7s from 30fps to 60fps.

**Brain MRI Segmentation and Processing Toolkit**

- Led team project for brain MRI image segmentation using Python, TensorFlow, and scikit-image for processing, and Flask for the backend. Created interactive UI with HTML/CSS and JavaScript for the front end.
- Implemented RESTful APIs for seamless communication, reduced segmentation time from 230s to 65s, improving medical imaging analysis for healthcare professionals and researchers.

## PUBLICATIONS

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Shankdhar A., **Mishra R.**, Shukla N. (2022) An Application of Deep Learning in Identification of Depression Among Twitter Users. In Khanna A., Gupta D., Bhattacharyya S., Hassanien A.E., Anand S., Jaiswal A. (eds) International Conference on Innovative Computing and Communications. Advances in Intelligent Systems and Computing, vol 1394. Springer, Singapore.

**Mishra, R.**, Jalal, A. S., Kumar, M., & Jalal, S. (2022). A deep learning approach for the early diagnosis of Parkinson's disease using brain MRI scans. International Journal of Applied Pattern Recognition, 7(1), 64-77.