

# RAJAN GHIMIRE

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## EXPERIENCE

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### Aerosports Trampoline Parks, *IT LEAD* | Scarborough, Ontario

Aug 2025 - Present

- Built complete IT infrastructure for a new 60,000+ sq ft facility, including network, audio systems, 64+ security cameras, and 30,000+ ft of Cat6 cabling.
- Developed custom DMX controller software managing 300+ lighting fixtures with programmable animations and automated scheduling synced to venue operations.
- Designed and deployed 3+ interactive game rooms with LED floor grids, touch sensors, motion-tracking, laser mazes, RFID wristband tracking, real-time scoring, and configurable cooperative/competitive modes.
- Developed an AI-powered phone system to handle 100+ inbound calls, answer customer queries, and book events using live company data.
- Built an automated outreach system processing 5,000+ weekly bookings, enabling sales teams to generate natural-language campaign queries that dynamically segment customers and deliver 1,000+ targeted SMS and email messages on configurable schedules.

### K1 Speed St Catharines, *Information Technology Solutions Engineer* | St. Catharines, Ontario

May 2025 - Aug 2025

- Built complete IT infrastructure for a new 60,000+ sq ft facility from the ground up including network architecture, 48+ security cameras, NVR and NAS configuration, and full cable routing throughout the building.
- Engineered a fully automated digital signage platform managing 30+ TVs across the facility using Raspberry Pi with CEC and VLC, featuring a web-based control panel for remote content upload, HDMI input switching, live content broadcasting, automated playlist scheduling by zone, and TV grouping with power control
- Developed an RFID-based arcade payment system converting 20+ coin-operated machines to tap-to-play using ESP32 microcontrollers, custom PCB design, and 3D-printed enclosures, with cloud-based real-time credit validation, cross-facility portability, self-service kiosks, and a business intelligence dashboard.

### E.K. Solutions Pvt. Ltd., *Machine Learning Engineer* | Lalitpur, Nepal

Apr 2022 - Nov 2023

- Built a multilingual resume parser and semantic job matcher using LLaMA2, achieving a P@10 of 0.95 and P@20 of 0.92 for keyword extraction, and a MAP of 0.85 for job description matching.
- Applied quantization techniques to a semantic segmentation model, reducing size by 70% and increasing speed by 32% with only 2% accuracy loss.
- Built an invoice parser by fine-tuning Donut and table transformers on 30+ samples, recognizing table/cell structures, and extracting key-value pairs with 95% precision and 92% cell coverage, at 1.5 seconds per invoice.
- Developed an orientation-free YOLOv5 object detection model for creatinine and DiAcSpm in medical kits, achieving theta loss of 0.12556 and mAP of 0.13963; Manually collected data (3000+ images) with data augmentation.
- Developed an SQL database agent to convert human queries to SQL and generate tabular responses/Plotly visualizations; finetuned CodeLlama with LoRA on NSText2SQL + custom datasets, implemented table selection LLM using the same base CodeLlama + LoRA, database connector, prompt formatter, and text-to-SQL-to-viz pipeline.

### E.K. Solutions Pvt. Ltd., *Natural Language Processing Trainee* | Lalitpur, Nepal

Dec 2021 - Apr 2022

- Conducted in-depth research and practical implementation of NLP tools and techniques, including NLTK, Spacy, and Word embeddings while mastering NumPy operations and applications.
- Implemented and trained various machine learning and deep learning models, such as PCA, K-Means, Logistic Regression, and Transformers (BERT, XLNET, GPT), using PyTorch and the Hugging Face library for sentiment classification and news classification.

## SKILLS

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<b>Languages</b>	Python, C/C++, C#, Bash, SQL, LaTeX
<b>ML/AI</b>	PyTorch, TensorFlow, Sklearn, OpenCV, Hugging Face, LangChain, LlamaIndex, spaCy, NLTK
<b>Web &amp; Data</b>	FastAPI, Flask, Django, Streamlit, Vue.js, MongoDB, PostgreSQL, MySQL, Spark, Hadoop
<b>DevOps &amp; Tools</b>	Git, Docker, Kubernetes, MLflow, Power BI, DAX

## EDUCATION

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### Lambton College, *Graduate Certificate In Artificial Intelligence & Machine Learning* | Toronto, Ontario

Jan 2024- Aug 2025

### Kantipur Engineering College, *Bachelors in computer engineering* | Lalitpur, Nepal

Dec 2017- Apr 2022

## PUBLICATIONS

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**Ghimire R, Basnet R, Shahi R, Joshi S.** “Leveraging Transliteration, Spelling Detection and Correction, Parts of Speech Tagging and Next Word Prediction for Effective Nepali Typing,” in *KEC Conference Proceedings*, 2022, Vol. 4, pp 55–62, ISSN 2961 - 1695(Print), ISSN 2961 - 1997(Online).

**Ghimire R, Basnet R, Maharjan R.** “Eye Controlled Virtual Keyboard Using Convolutional Neural Networks,” in *KEC Conference Proceedings*, 2021, Vol. 3, pp 237–242, ISBN 978-9937-0-9019-3.