

Bibek K C



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Summary

Hello! I'm Bibek from Nepal. I enjoy the process of creating complex applications. If your search query has high lexical or semantic similarity with my **general_skill_corpus**, feel free to be in touch.

general_skill_corpus = [“managing largescale project backends using Agile methods”,
“delivering easy-to-use Python libraries and granular APIs”,
“handling network gateways for SaaS platforms and setting up reverse proxies”,
“containerizing and deploying applications or executables across different OS”,
“staying up-to-date with LLM trends and their real-world use cases like RAGs”,
“creating quick demos with intuitive frontends and UX interactions”,
“swiftly experimenting with the latest frameworks, regardless of the field”]

I'm a firm believer in my mantra, *“If they can Do it, I can Do it”*.

Want to scan more about me? First, scan the QR code located at top right or directly visit my website and/or chat with my chatbot at <https://kc-bibek.com.np>. My chatbot is always eager to meet new people!

Experiences

AI Researcher

Artificial Language Intelligence (ALI Co. Ltd), Korea

Aug 2023 - Present

- Develop neural-network-based document Layout Detector (306M), labels: [text, title, list, figure, table] Two versions: fast (TensorRT-10FPS in T4GPU) vs slow (Openvino-1FPS in CPU) for BATCH_SIZE=1
- Develop layout ranker for natural reading order of detected blocks and rule-based fast-header detector for selectable PDFs
- Maintainer of ALIParse (in-house python library) that provides easy access to layout analysis modules, independent of document types and extends to provide granular APIs and RAG service
- Serve custom models using TorchServe and setup automated workflows using GitHub Actions
- Set up reverse proxies for all demo applications and manage the Kong gateway
- Prepare executables for Python and Node.js applications to run on Windows and macOS
- Hands-on experiments with handful of open-source LLM serving and quantization frameworks

Research Intern

Robust Intelligence & Robotics Lab, KAIST

Jul 2022 - Dec 2022 (6 months)

- For a single moving camera setup, developed a combined framework for realtime 6DoF Pose Estimation and Scene Graph Generation (SGG) in Robotic Manipulation Task using [Cosypose](#) framework for 6DoF pose and [Neural-Motif](#) framework for SGG and performed experiments on custom cup datasets. [[Demo](#)]
- For 2 fixed cameras setup, developed a probabilistic multi-view object-pose estimation framework that (i) associates multiple estimation results with scene graphs, (ii) combines pose distributions from singleview based estimators, and (iii) constructs a unified scene graph by predicting a unified pose distribution per object using MC dropout. More details in [draft-paper](#).

Backend Developer Intern

Bisonai, Seoul

Jan 2022 - Feb 2022 (2 months)

- Built data pipelines (DAGs) in Airflow to collect DeFi data from various sources like Uniswap, Coingecko and stored them in MongoDB Atlas.
- Implemented backend API server using FastAPI and Strawberry (Python GraphQL Library).

Data Visualization Project Intern

Interactive Computing Lab, KAIST

Jul 2021 - Aug 2021 (2 months)

- Made a course material for Data Visualization class, i.e., a simple [tutorials](#) for visualizing plots with VegaLite and D3.js in Observable notebook for beginners to learn Data Visualization techniques.

Projects: Refer portfolio_bibek for more details and other projects

- **MBTI Prediction:** In Qualcomm-KAIST Innovation Awards-Hackathon 2023, I proposed a hierarchical classifier based approach with 4 KoBert and 4 SVM models with techniques like data augmentation, feature-engineering and adaptive fine-tuning. I was 3rd in phase-2 private leadership ranking. More details in [qia-presentation](#).
- **AI-empowered F1/10 Autonomous Racing Car:** I set up the environment and internet on the Jetson Xavier NX, including installing libraries and ROS packages for sensor interfaces. My part was perceptron, specifically object (traffic-light) detection. I used Yolact_ros. Later, due to computational issues, I used a simple rule-based classifier that involved cropping, masking, and counting the pixel values of red, green, and yellow based on certain thresholds and return the color with maximum counts.

Education

Korea Advanced Institute of Science and Technology (KAIST)

Sep 2019 - Aug 2023

Bachelors, Double Major in Electrical Engineering and Computer Science, Courses-taken

British Model College (BMC)

July 2015 - June 2017

*GCE A Levels, 4A*s in Chemistry, Biology, Physics, Mathematics*

Skills

Linux, Python, JavaScript, PyTorch, Docker, HuggingFace, Gradio, TorchServe, Git, DVC, GitHub Actions, FastAPI, Nginx, Kong, Poetry, PyInstaller, Ollama, LlamaIndex, GoogleCloud, Public Speaking, Team Player

Awards

KAIPlus+ Scholarship Award

KAIST, Apr 2023

Social Innovation Award

Tsinghua University, Jul 2021

Inclusive Leadership

Common Purpose, 2021

KAIST International Student Scholarship

KAIST, 2019-2023

Best student of the batch 2015/2017

The British College, 2017

Country Topper in AS Level Chemistry

University of Cambridge, Nov 2016

2nd Position in Inter-School Olympiad

Budhanilkantha School, 2016

Other Experiences

- Hackathon experiences include Techstars Startup Weekend Busan 2022, where we proposed data-driven predictions for optimal daily customer numbers in restaurants, and Junction Asia 2022, where we proposed a second-hand market in the metaverse, providing users with a new experience.
- Student Assistant in International Scholar and Student Services (ISSS) team at KAIST from Spring 2023
- International Community Representative of Nepal for Spring 2020, Spring 2021, Fall 2021, Spring 2022 and Fall 2022
- Mentor of new international students for Fall 2020, Spring 2021, Fall 2021 and Spring 2022
- Attended Global Summer School 2021, AI and Sustainable Development Goals in Tsinghua University
- Teacher Assistant in British Model College from July 2017 to May 2018