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.

$$
\textbf{general\_skill\_corpus} =
\begin{bmatrix}
\text{``managing largescale project backends using Agile methods'',} \\
\text{``delivering easy-to-use Python libraries and granular APIs'',} \\
\text{``handling network gateways for SaaS platforms and setting up reverse proxies'',} \\
\text{``containerizing and deploying applications or executables across different OS'',} \\
\text{``staying up-to-date with LLM trends and their real-world use cases like RAGs'',} \\
\text{``creating quick demos with intuitive frontends and UX interactions'',} \\
\text{``swiftly experimenting with the latest frameworks, regardless of the field''}
\end{bmatrix}
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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/Ollama and setup automated workflows using GitHub Actions
- Set up reverse proxies for all demo applications and manage the Kong gateway
- Prepare and obfuscate executables for Python and Node.js applications to run on Windows and macOS
- Demo Videos: Layout-Detector, Document-Parser, Document-RAG, Form-Extraction

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

- **B-Assist:** Better-Assistant is a fun project designed to integrate AI features into commonly used low-spec PCs. Currently, it functions as a basic writing assistant, offering a new writing experience by incorporating generative models into your preferred text editors. Future updates will expand its capabilities to include input audio processing and screen understanding. Demo Video: b-assist

- **MBTI Prediction:** In Qualcomm-KAIST Innovation Awards-Hackathon 2023, I proposed a hierarchial 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.

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