Ranjai Baidya

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Experience

- **Kpro System, Seoul, South Korea**
  Researcher / AI Developer *2022/09 - Present*
  - **Drone Research and Development**: Research advanced drone technologies and implement those systems as per requirement
  - **AI Research and Development**: Research latest state-of-the-art AI and Deep learning advances in computer vision and drone technology
- **PRML Lab, Gachon University, Seoul, South Korea**
  Research Assistant *2020/09 - 2022/08*
  - **AI research**: Research on latest state-of-the-art technologies related to time-series forecasting and computer vision
  - **Assignments Grading**: Grading the undergraduate level assignments
- **NIC Asia Bank, Kathmandu, Nepal**
  IT Assistant *2019/03 - 2020/09*
  - **Oracle Database**: Manage the database of the bank and also generate necessary reports from the database
  - **Core Banking System Software**: Maintain the Core Banking System Software and provide support to the staffs of the bank to use the software
  - **End of the Day Processes**: Creating and maintaining script for the end of the day processes like: interest calculation. Perform end of the day processes like running script, backing up the database.
- **Vianet, Jawalkhel, Nepal**
  Jr. Network and Monitoring Executive *2018/08 - 2020/02*
  - **Network Management**: Manage the network of the ISP and modify it when necessary
  - **Configuring Network devices**: Configure routers and switches for deployment in the ISP network
  - **Network Monitoring**: Monitoring the ISP network for anomalies and prevent or reduce downtime by taking necessary action

Education

- **Gachon University** Seongnam, South Korea
  Master of Engineering, Department of AI. Software; GPA:4.44/4.5 *2020/07 - 2022/08*
  Thesis Title: *Long Sequence Time Series Forecasting Using Spectral ConvMixer Alongside Weak-stationarizing and Non-stationarity Restoring Blocks*
- **Kathmandu University** Kavre, Nepal
  Bachelors of Engineering, Department of Electrical and Electronics Engineering; GPA:3.23/4 *2014/07 - 2018/12*
  Thesis Title: *A Study to Minimize the Effects of Blackhole Attack in Mobile Ad-Hoc Networks*

Skills Summary

- **Programming Languages**: Python, C, C++, Matlab, SQL
- **Frameworks**: Pytorch, Keras, TensorFlow, OpenCV, Scikit Learn, Dronekit, Pymavlink, Numpy, Pandas, Matplotlib, Cx-Freeze
- **Tools**: Docker, GIT, Slack, Toad, Ardupilot: Mission Planner, QGround Control, Qt Designer
- **Platforms**: Linux, Windows, Nvidia Jetson, Arduino, Raspberry
- **Languages**: Nepali(Native), English(IELTS:7), Korean(Beginner), Hindi(Fluent Spoken), Newari(Native)
- **Others**: Microsoft Office, Latex

Projects

- **Drone Precision Landing System**: Design and implementation of computer vision based precision landing system for drone of 100 Kg weight, using a Jetson board. (2022/06 - Present)
- **Time Series Forecasting**: Research and design of a time series forecasting model using deep learning. (2021/07 - 2022/06)
- **Golf Ball Tracking**: Utilizing computer vision technique to track a golf ball and draw its trajectory. (2020/09 - 2021/06)
- **Health and Position Tracker**: Design and implementation of a device that constantly monitors pulse rate and body temperature of the user and notifies concerned person if any unusual behavior is seen. (2016/07 – 2017/06)

Publications

- **Baidya, Ranjai, and Heon Jeong.**: "YOLOv5 with ConvMixer Prediction Heads for Precise Object Detection in Drone Imagery." Sensors 22.21 (2022): 8424.

Honors and Awards

- Excellent paper among papers (oral) - 2022/052022 Korean Society for Next Generation Computing Spring Conference (2022/05/20)
- Excellent paper among papers (posters)2021 Korean Society for Next Generation Computing Spring Conference (2022/05/15)