

SKILLS

- **Languages:** Python, SQL, Bash, Dart, JavaScript, Java, HTML, CSS
- **Web:** Django, Flask, Flutter, SQLAlchemy, Pytest
- **ML:** PyTorch, PySpark, Pandas, NumPy, OpenCV, Matplotlib, Scikit, FastAI
- **Tools:** Docker, Compose, Kubernetes, Redis, Celery, Git, JIRA
- **Cloud:** GCP, Heroku, AWS

EXPERIENCE

- **Brave Orbit** Capetown, South Africa
Full Stack Developer Jan. 2020 - Aug. 2021
 - Developed a cross-platform app using BLoC pattern, implemented database, network and state management layers
 - Designed HIPAA compliant scalable async push notification service for medication reminder application
 - Developed a task scheduler for clinical surveys that delivers email, SMS alerts and gathers response on a recurring basis
 - Developed a ERP system, custom features such as multi-product substitutions, combo-products are developed
 - Kubernetes CI/CD workflows were setup to automatically test, build and deploy backend services on cloud
 - Developed automated testing pipelines and improved test coverage for both frontend and backend services
- **Accenture** Bangalore, India
Big Data Developer Sep. 2018 - Dec. 2019
 - Time series analysis was conducted on drug assay data to identify raw materials that effect the drug quality
 - Designed parallel ETL data validation pipelines using microservice architecture; Manual testing resources were cut by 70%
 - PL/SQL procedures were developed to generate parent child hierarchies using temporal drug life cycle data
- **Vishakapatnam Port Trust** Visakhapatnam, India
Computer Vision Intern May 2017 - July 2017
 - Extracted frames from surveillance cameras; merged them based on SIFT keypoints and RANSAC; trained a SVM with a gaussian kernel to detect cargo class and estimate lease area; developed a motion detector model to identify suspicious movements

PROJECTS

- **Recommender system using graph neural networks**
 - Developed a inductive matrix completion model using user-item node embeddings pretrained on movie reviews; 1-hop subgraphs around user, item pairs are generated and passed to MLP regressor to forecast ratings
- **Computer vision based vehicle damage detector**
 - Trained instance segmentation model using detectron2 to detect damages; assigned a health score based on relative damage
- **Unordered image stitching and deghosting**
 - Estimated approx overlap area by minimum variance technique on binarized images; stitched images based on binary tree model; removed deghosting from the overlap areas by selecting regions based on minimum local gradients
- **Information extraction as seq2seq task**
 - Transformed labelled structured data into text; finetuned T5 model to generate text and extracted entities using REGEX
- **Microservice based deeplearning inference pipeline**
 - Exposed ResNet model in a docker container; setup automated CI/CD pipeline to build and deploy as serverless REST API
- **Reinforcement learning based crypto trading bot**
 - Designed OpenAI gym for time series data; LSTM with CNN was used as function approximator to actor critic algorithms

EDUCATION

- **University at Buffalo [3.9/4]** Buffalo, NY
Master of Science in Computer Science Sep. 2021 – Present
- **National Institute of Technology, Durgapur [3.3/4]** West Bengal, India
Bachelor of Technology in Computer Science and Engineering July 2014 – May 2018

THESIS

- **Gender Classification Using CNN under Dr. Dakshina Ranjan Kisku**
 - Implemented Gil Levi and Tal Hassner's deep neural network architecture in PyTorch, tweaked the network layout, and evaluated various second-order optimisation techniques