Vinay Kudari

https://vinaykudari.me

vkudari@buffalo.edu
+1-(469)-943-6778

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 and 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 effects 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 support vector machine with a gaussian kernel to detect cargo class and estimate lease area; developed a motion detector model to identify suspicious movements

Relevant 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 vechicle 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**
  - Designed custom OpenAI gym for crypto time series data; LSTM with CNN was used as function approximators to actor critic algos

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