Vinay Kudari

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Profile: Masters student with 3.5 yrs of software dev experience and a passion for innovating technical solutions

Relevant skills

Python, OOPS, SQL, JAVA, Django, Flask, PyTorch, PySpark, Docker, Kubernetes, Git, OpenCV, Pandas, GCP, AWS

Experience

- **Sony (Playstation)** — San Francisco, CA
  Software Development Intern | ***java, spring, kafka, concurrency, grpc, no-sql, cassandra*** — *May 2022 - Present*
  - Working on a backend service which publishes hints to the online PS5 users dynamically based on the game context
  - Porting monolith news publisher service into micro services using gRPC based custom built framework
  - Building grafana analytical dashboards to visualize service performance charts derived from over 100M active users
- **Brave Orbit** — (Remote) Capetown, South Africa
  Full Stack Developer | ***python, django, flutter, pytest, redis, celery, gcp, k8s*** — *Jan 2020 - Aug 2021*
  - Developed a cross-platform app using BLoC pattern, implemented database, network and state management layers
  - Engineered 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 | ***python, redshift, pyspark, pandas, aws, distributed-systems*** — *Sep 2018 - Dec 2019*
  - Time series analysis was performed on drug assay data to identify raw materials that effect the drug quality
  - Designed ETL data validation pipeline using micro service architecture; Manual testing resources were cut by 70%
  - PL/SQL procedures were developed to generate parent child hierarchies using temporal drug life cycle data
- **Visakhapatnam Port Trust** — Visakhapatnam, India
  Computer Vision Intern | ***vision, opencv, video processing, scikit-learn*** — *May 2017 - July 2017*
  - Extracted frames from surveillance cameras; merged them based on SIFT keypoints and RANSAC; trained a SVM to detect cargo type and estimate lease area; developed a motion detector model to identify suspicious movements

Projects

- **Recommender system using graph neural networks (gnn, deep-learning)**: Developed an inductive matrix completion model using user-item node embeddings pretrained on movie reviews; 1-hop sub graphs are used to forecast ratings
- **Computer vision based vehicle damage detector api (vision, rest-api, django, pytorch)**: Trained an instance segmentation model to detect damages; assigned a health score based on relative area of damage and deployed as an api
- **Unordered image stitching and deghosting (vision, image matching)**: Estimated approximate 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
- **Open-source contributions (nlp, open-source)**: Core contributor to HuggingFace Datasets official repository
- **Information extraction as seq2seq task (nlp, transformer, text2text)**: Transformed labelled structured data into text; finetuned T5 model to generate text and extracted entities using REGEX
- **Abstractive text summarization of tabular data (nlp, transformer)**: Flattened tables into sequence of words, preserved structure using key:value format; Explored various text2text models to generate summary of news articles
- **Deep learning based serverless rest api (serverless, rest-api, cloud-run, ci/cd)**: Created synthetic face mask dataset and developed automated pipeline to build, test and deploy trained model in a docker container to google cloud run
- **Reinforcement learning based crypto trading bot (time-series)**: Designed a continuous action space OpenAI gym environment to handle trading data; LSTM with CNN was used as function approximator to actor critic algorithms
- **Custom car controller app (full-stack, mobile-app, fastapi, webrtc)**: Assembled the car with Jetson Nano; Cross-platform mobile app and controller service was developed to control the bot over network

Education

- **University at Buffalo [3.95/4.0 GPA]** — Buffalo, NY
  Master of Science in Computer Science (AI/ML Specialization) — *Sep 2021 - Present*
  Courses: *Data Structure & Algorithms, Computer Vision, NLP, Deep Learning, Big Data Systems, Reinforcement Learning*
  Research: *Working at A2IL lab on projects related to NLP and Computer Vision, advised by Prof. David Doermann*
- **National Institute of Technology, Durgapur [3.3/4.0 GPA]** — West Bengal, India
  Bachelor of Technology in Computer Science and Engineering — *July 2014 - May 2018*
  Courses: *Operating Systems, Computer Architecture, Networking, Database Management Systems, Compilers, Digital Image Processing*
  Thesis: *Gender Classification using CNN advised by Dr. Dakshina Ranjan Kisku*

Publications

- **Time series analysis of civil unrest using Graph Neural Networks @ COLING 2022 (In Review)**: