Rohan Gupta

+1 (302) 363-8352 grohan@seas.upenn.edu LinkedIn GitHub

Education

University of Pennsylvania, *Philadelphia, PA* **Sep 2020 – May 2024**

B.S.E. in Computer Science (NETS program) GPA: 3.98

Notable Coursework: Discrete Mathematics (A+), Program Design (A+), Computational Linear Algebra (A+), Data Structures and Algorithms, Advanced Algorithms (A+, 2nd in class), Scalable and Cloud Computing, DevOps (A+), Artificial Intelligence (G) (A+), Graph Neural Networks (G), Algorithmic Game Theory (A+, 2nd in class). **G = Graduate Level*

Technical Skills

Languages: Python, Java, Go, JavaScript, SQL, LaTeX
Technologies/Frameworks: Django, Flask, Git, PyTorch, TensorFlow, Kubernetes, Docker
General: Backend Development, DevOps/MLOps, Data Engineering, Mathematical Modeling

Experience

Stripe, *Seattle, WA* **May 2022 – Present**

Software Engineering Intern

- ML Features team within the Infrastructure engineering organisation

NeuroFlow, *Philadelphia, PA* **June 2021 – Apr 2022**

Data Science/Engineering Associate

- Develop an end-to-end NLP and ML labeling, training and prediction pipeline (**spaCy, scikit-learn, Flask, FastAPI**) to classify patients' risk for severe anxiety/depression using journal entries
- Lead transition of data stack to follow modern MLOps/DevOps (**Docker, K8s, Redis**) practices, with cache/model load optimisation using Redis, multiple replicas with load balancing, and automated retraining.
- Use ML (**spaCy, TextBlob, and GBDTs**) to detect a variety of wellbeing metrics from journal entries; productionize all data products using an internal and client-facing API for prediction (**FastAPI**).

Penn Labs, *Philadelphia, PA* **Oct 2020 – Present**

Co-Director/Team Lead /Backend Engineer

- Lead organisation of 30+ engineers, designers, and business developers to improve product, user experience, and divide tasks as well as interface with stakeholders (Penn Admin, Office of Student Affairs, Club Council)
- Develop the backend API, write unit tests, and optimize database queries (**Django/REST Framework**) for Penn's official club repository. (Link: *Penn Clubs*).
- Integrate with third-party services (Zoom, Calendar, Stripe) and offer analytics to enable clubs to organise and ticket events and streamline applications through a central platform.

Wharton Analytics Fellows, *Philadelphia, PA* **Feb 2021 – Dec 2021**

Data Analyst

- Analyse and extract data-based solutions from large company datasets using statistical tools in **Python (Pandas, Numpy, Keras)**.
- Interface with company executives to perform targeted analysis of key business metrics (revenue, brand health, customer satisfaction).
- Clients: McDonald's (Spring '21), Lidl (Fall '21)

Projects

Distributed Machine Learning Pipeline | *dist-ml-pipeline* **Nov 2021**

- Develop a fully model and parameter agnostic Machine Learning infrastructure system (**Docker, Kubernetes, PyTorch**) to deploy and scale ML models with minimal overhead
- Offer a plug-and-play system with inputs as model class and hyparameters at runtime, continuous training using CronJobs, and automated logging to AWS S3 enabling DevOps-adherent ML engineering.
- Integrate support for distributed training workloads using Kubernetes custom resource PyTorchJob (by Google) integrated with CronJobs.

Computational Neuroscience Research | *neurogenesis-research* **June 2021 – Aug 2021**

- Work with *Prof. Vijay Balasubramanian* and David Kersen (MD/PhD student) to study adult neurogenesis in the olfactory bulb and its impact on odor perception.
- Develop computational models in **MATLAB** and **Python** to simulate the integration of new neurons into existing neural network topologies.
- Investigate multiple modes of neuron placement using metrics in **Graph Theory** and **Biostatistics**, and validate through mutual information and decorrelation between odors.