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Work Experience

Side Projects At Home (started 4 projects, 2 making money so far, so my hit rate is ~ 50%)

Everyday After Work

- AnyPal.ai hosting uncensored LLM for everyone, 3k monthly users, 500k chats served, \$600+ mrr
- * **Discord** as front-end, **LLAMA** fine-tune, **runpod** to serve the model
- AnyDream.xyz hosting uncensored image gen tool for everyone, 40k users, 3m images served, \$7k+ mrr
- * **Next-js** and **vercel** to serve front-end, **runpod** to serve the model
- Yuzu.fan onlyfan clone for AI onlyfan creators to upsell their chat and pictures, beta testing stage, serving 2 content creators, \$0 mrr
- * **Firebase** for content hosting, **next-js**, **Cloudflare** to serve image/videos
- QUOKKA! AI therapy bot on IOS store \$0 mrr
- * **GPT-4 API**, everything hosted on AWS, **Weaviate** vector DB for memory retrieval.

AMAZON - SDE Mountain View, CA 94040

2022 - present

- Built the transportation pricing simulation system with the team (core of Amazon shipping). Handles 100k+ costing simulations per day.
- learned bunch of **AWS** stuff.

Qualcomm ADAS R&D - Senior System integration Engineer San Diego, CA 92122

2019 - 2022

Fresh out of college, I was smart and I worked really hard, got 5/5 rating every year.

[Vehicle Behavior Prediction Deep Learning Research]

- Drove the design of behavior prediction module, collaborated with upstream (Sensor Fusion & Perception) for **features engineering** and downstream consumers (Motion Planning & Control) for prediction-head design. Reduced disengagement types from > 10 per 200miles testing to less than 2, enabled 3 CES demos and helped ADAS team successfully secured multiple OEM clients.
- Led behavior prediction data-driven approach, hands-on experience with **rule-based model** design (long tail event solution with domain knowledge) and DL based design (end-to-end solution, **Generative/RNN/Transformer/Tree**) for both vehicle **intention or trajectory** prediction.

[Vehicle Behavior Prediction KPIs, Python Library and Data Pipeline Point of Contact]

- Managed and led the behavior prediction key performance indicator Toolkit, reduced **miss detection rate** per 200miles to below 1% sample-wise and below 10 event-wise. Optimized KPIs generation run-time from > 5 hours to 1 hours data regression utilizing **python multiprocessing** and distributed cloud computing.
- Initiated the integration of KPI Toolkit into the **data regression** pipeline that better helps team target corner cases' root-cause. Developed the extractor tool API as the bridging between raw data and network training features, which generates important events and **automated feature labeling** for the ML active learning pipeline. Leveraged **Kubernetes** for container management, **Google BigQuery** as the data lake storage, **Spark/SQL** for data aggregation and Grafana dashboard used for analytic visualization tool. The pipeline handles more than 5 million frames of raw sensor data each run.

[ML-system team, Customer's Networks Optimization for Hardware]

- Joined the Tiger Team during the project ramp up stage, focused on urgent pain points of potential clients and set competitive product specs to stay ahead of competitors. Collaborated closely with auto makers from Germany, China, Korea and India to optimize **ONNX/torch-script** model with < 2% performance/accuracy drop on hardware.

[Qualcomm Innovation Fellowship Mentor]

- Mentored MIT Autonomous research lab on long term prediction and meta learning topics

Ray W. Herrick Laboratories - Robotics Research Assistant West Lafayette, IN 47906

2015 - 2017

- Designed Cascade PID and LQR controller for UAV, flight control realized based on feedback linearized model, minimum snap trajectory generation and nonlinear control tracking. Conducted simulations of flying tests in **MATLAB/Simulink** for qualitative/quantitative analysis. Experienced with trajectory optimization methods (iLQR, Direct Collocation Methods, etc). Modeled and manufactured the latest version of the "Boomcopter" (A Tri-copter with Boom-Props) to serve as the concept testing platform for Purdue Multi-Scale Robotics Automation Lab.

Education

Purdue University B.S. + M.S., Mechanical Engineering

2014 - 2019

- Big cyberpunk nerd, founded one of the biggest robotics clubs - <https://purduerm.org/blog>

Publication

- Developed an investment strategy by combining forecasting tools and control theory with implementation on the Bitcoin market. (Used Python and MATLAB for data analysis and mining)