Andy Hayes

Software Engineer

Andy Hayes

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Summary

Problem solver with a hacker mindset. Ability to quickly learn, pick up, and apply new technologies to solve the most challenging problems. Inventor on tech patent no. 11,600,074.

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Experience

Therigy / Software Engineer

Nov. 2021 - Current, Minneapolis, MN

Developed serverless api routes to support web application with over 1,000,000 active users. The product requires high availability and low latency for day to day success.

Migrated legacy AngularJS pages to more performant React. Utilized cypress testing library to validate function based React components.

Implemented SSO for user login, configurable for different client organizations.

Created gitlab pipelines to automate testing and assist with CI/CD.

Supported existing and new client integrations for transferring encrypted patient health data.

Foundation Stack AI / Software Engineer

April 2022 - Current, Minneapolis, MN

Developed GRPC python api to ingest geospatial annotation data from satellite imagery. Automated ML annotation pipeline utilizes this api to ingest hundreds of thousands detections per day.

Utilized NextJS and FabricJS to create a QA/QC interface for human annotators to manually CRUD annotations.

Marshall Associates / Software Engineer

March 2021 - Nov. 2021, Minneapolis, MN

Supported serverless infrastructure on AWS (Lambda, SQS, ECS) to scrape 150k+ webpages daily. The product relies on the consistency and integrity of this data for day to day operations.

Developed standalone service to seamlessly ingest sensitive user data with changes reflected in the client facing app.

Migrated legacy PHP scripts to modern pipelines run in python containers orchestrated by Apache Airflow.

Contributed in architecting and implementing new microservice architecture to support application backend.

Anno.Ai / Software Engineer

May 2019 - Feb. 2021, Vienna, VA

Developed a scalable security/surveillance system using Kubernetes, enabling customers to identify threats across thousands of cameras in near-real time. The system is used today to track people of interest across many cameras in a city.

Developed a scalable bulk data ingestion framework using Kubernetes, enabling customers to automate the exploitation of large datasets. The system is used today to ingest and exploit over 10TB of data in under 12 hours, finding documents/media of interest without human intervention.

Developed modules that extract text and dominant colors from images and video, enabling users to find people and objects of interest by physical characteristics (e.g white adidas t-shirt and blue jeans). This technology is used to counter human trafficking and locate missing persons, among other use cases.

Built systems that can be installed/run in air-gapped environments (disconnected from the internet).

Worked with and made impacts on all facets of the application (front/back end, server maintenance, CI/CD development operations).

Developed patented technology for object reidentification. (Patent no. 11,600,074).

Experience (cont.)

Relevant Technologies

Microservice Architecture - Kubernetes, K8s API, Kafka, Docker, Skaffold, Github Actions, GitLab Workflows (CI/CD Pipelines), Python (pip/poetry), NodeJS, Typescript, FastAPI, Airflow, Application migrations.

Machine Learning Service Integration - YoloV5, Tensorflow, Pytorch
Data Serialization Formats: JSON, Protocol Buffers
Caching/Queuing - Redis, Kafka (Event-Driven Services)

DBMS - PostgreSQL, MySQL
NoSQL - Elasticsearch

API - REST, GRPC, GraphQL, Websockets
Web Framework - NGINX, NextJS, ExpressJS, FASTApi

Cloud - AWS (EC2, S3, Lambda, ECS, SQS), Digital Ocean

Education

Macalester College / Computer Science, Applied Math

August 2015 - May 2019, St. Paul, MN

MacStartups fellow, TA for multiple years, member of baseball team,

Relevant Coursework: Provided upon request.