Name

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WORK EXPERIENCE

Software Developer - Volunteer (Spark, Elastic MapReduce, Parquet, Data Pipeline)   XXX, PA
XXX Lab, University XXX   July 2024 – Aug 2024

- Designed and implemented a scalable, secure data-sharing pipeline capable of processing and querying large medical data, tested on 1TB of data, using AWS technologies like S3, EMR, and Athena for efficient processing and querying.
- Leveraged Spark for ETL processes, data compression, and caching strategies, enabling the processing of gigabytes of data in minutes and querying terabytes in seconds to enhance performance and minimize costs.
- Integrated AWS QuickSight and a NextJS front-end to provide a user-friendly interface for data interaction and insights. The project resulted in an adaptable platform with automated workflows, significantly reducing operational costs and setting the stage for future enhancements.

Software Developer (Node.JS, Python-Django, NextJS)   XXX, PA
Department of XXX, University XXX   Jun 2023 – Feb 2024

- Single-handedly designed, and developed Alexa skill for physical assessments and seamlessly integrated with a Django and NextJS-based web application, to connect patients with caregivers for easy access to medical resources from home.
- Crafted the Alexa skill in Node.js, harnessing AWS Lambda's serverless framework for efficient execution, and employed DynamoDB for tracking process statuses.
- Implemented advanced security features within the Django Restful API, including a customized JWT authentication system with token blacklisting capabilities, hosted on AWS Elastic Beanstalk and secured with Nginx as a reverse proxy.
- Developed data visualization and tracking features using Next.js, and deployed via AWS Amplify for a streamlined CI/CD pipeline integrated with GitHub
- Produced comprehensive video tutorials detailing the development processes and systems implemented, facilitating a smoother onboarding experience for new team members and ensuring continuity and efficiency in project development.

Computer Vision Algorithm R&D Intern (Python, C++, Shell Script)   XXX, China
国内某科技小公司   Oct 2021 – Mar 2022

- Fine-tuned pre-trained YOLO models using local datasets for server room inspection robots, enhancing their object detection accuracy and reliability.
- Generated over 10,000 unique datasets from an initial 200 using Blender, significantly improving the training process and performance of the YOLO models.
- Developed tools to generate extensive Gazebo testing environments for a solar panel cleaner robot project, facilitating comprehensive simulation and testing.
- Automated the testing environment setup, reducing preparation time from hours to minutes and streamlining the development workflow.
- Collaborated with cross-functional teams to ensure seamless integration of robotic systems and documented processes to support ongoing and future projects.

EDUCATION

University XXXX   XXX, PA
Master XXX Information Science (GPA 3.95/4.0)   Aug 2022 - May 2024
Coursework Highlights: Application of Networks, Cloud Computing, Network Science, Immersive Media Applications.

University XXX (QS TOP 20)   XXX, Australia
Bachelor of Science (Honors) in Computer Science & Eng   Mar 2017 - Nov 2021
Coursework Highlights: Applied AI, Data Mining, Deep Learning, Advanced Topics in Statistical Machine Learning.

PROJECT HIGHLIGHTS

Serverless Document Processing System - demo: <u>YouTube Link</u>
- Designed and delivered a serverless full-stack system using AWS services (**Lambda**, **S3**, **EC2**, **DynamoDB**, **API Gateway**) and **ReactJS**, with **TypeScript** and AWS CDK for infrastructure as code.
- Implemented DynamoDB-triggered Lambda functions for automated EC2 instance provisioning and script execution, achieving a seamless file processing workflow with cost-efficient cleanup, while adhering to AWS security best practices.

Camping Advisor Portal - <u>Github Link</u>
- Integrated VisualCrossing Weather API for 15-day weather predictions and Google Maps API for proximity-based campsite discovery around {A City}.
- Leveraged **Neo4j** Graph Database for data persistence, and employed **ExpressJS (Elastic Beanstalk)** along with **D3JS (Glitch)** for presenting optimal meteor shower spots, assessing sunrise and sunset vistas, and offering guidance on umbrella necessity.

Accommodation website - <u>Github Link</u>
- Developed an Airbnb-like housing app using **React**, **Django**, and **PostgreSQL**, achieving the top 10% ranking in our class for its user-friendly design and fake comment detection features.

E-commerce website - <u>Glitch</u>, <u>Github Link</u>
- Developed a functional lightweight e-commerce website using the **MERN** stack(**MongoDB, Express.js, React**, **Node.js**), focusing on foundational full-stack development practices and scalable design.

Clinical Reminder Backend - <u>Github Link</u>
- After analyzing consultation system needs, the clinic reminder system's backend was developed in just three days using **Spring Boot**, **Spring MVC**, and **Spring Data JPA**. It features **RESTful APIs** that allow doctors to manage patient information and send reminders.

Unity(C#) Game Development - <u>Play on itch.io,</u> <u>Github Link</u>
- Led a team to win the XXX Award at XXX Game Jam with a Unity-built game, and independently developed and released a 3D adventure game on <u>itch.io</u>, <u>Github Link</u>.

SKILLS

Programming Languages: C, C++, Python, Java, C#, JavaScript, Typescript, HTML/CSS, Shell Scripts, Perl (PL), Prolog.
Frameworks and Libraries: Node.js, Next.js, Spring, React, Django, JQuery, Bootstrap.js, Unity (Game Engine), Adobe Data Analytics, ROS (Robot Operating System), Hadoop (Big Data Framework).
Cloud Services and Platforms: AWS (DynamoDB, Lambda, RDS, Elastic Beanstalk, Amplify, EC2, API Gateway), Docker (Containerization), Nginx (Web Server, Reverse Proxy).
Databases: MySQL, MongoDB, PostgreSQL, Neo4j, Cassandra.
DevOps and API Tools: Git (Version Control), CMake (Build System), Agile Programming Methodologies, DevOps Practices.
Other Skills: Alexa Skills Kit (Voice Assistant Development), Blender (3D Modelling Software), Gazebo (Robotics Simulator), Data Warehousing Techniques, Software Development Life Cycle (SDLC), XML, CSV (Data Formats).