Ashreet Nagar

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ashreet-nagar | AshreetNagar

EDUCATION

Toronto Metropolitan University (Ryerson University), Toronto, ON Sep 2019 – May 2024
Bachelor of Engineering (B.Eng.): Software Engineering

TECHNICAL SKILLS

Languages
- Python, Java, C, SQL, JavaScript, HTML, CSS

Frameworks
- React, Vue, GraphQL, Flask, Bootstrap, Celery, Django, JQuery, Flower, RabbitMQ

Tools
- AWS (Lambda, Cognito), MongoDB, DynamoDB, Docker, Terraform, Jira, Confluence, Git

EXPERIENCE

DON MILLS CAREER COLLEGE – *SOFTWARE DEVELOPER [Toronto, ON]* September 2024 – Present
- Architected and maintained backend with **Java & SQL**, improving query efficiency and reducing data errors by **30%**
- Built secure **RESTful APIs** with **Java Spring Boot & Flask**, supporting 50+ users for seamless integration
- Implemented role-based access with **Spring Security, JWT, & AWS Cognito**, securing **access for 50+ users**
- Optimized backend performance with **indexing, query tuning, & caching**, reducing API response times by **40%**

AMD – *APPLE SOFTWARE DRIVER DEVELOPMENT ENGINEER [Markham, ON]* May 2022 – May 2023
- Scripted & tested Mac/Windows **Python** automation to generate data analysis reports for **5+ benchmark applications**
- Maintained 50+ IP Addresses and status tags to streamline a manual structure to an automatic process using **Celery**
- Restructured an **8-state Finite State Machine** using **Python**, improving frontend status display clarity for **50+ users**
- Optimized **2000+ table entries** using **Django** with **caching, pagination & sorting**, **improving load speed by 20x**
- Updated database & server with 10+ configurations on distributed workers, improving software version compatibility
- Contributed to **setup scripts** using **Python** to deploy apps on new machines, **reducing deployment time by 30%**
- Implemented **filtering & sorting** into computer management system based on tags representing computer attributes
- Redesigned frontend pages using JavaScript and CSS, adding loading screens & icons, **improving UX for 50+ users**

HT Productions – *FREELANCE FULL STACK DEVELOPER [Toronto, ON]* June 2021 – August 2021
- Designed **4 RSVP websites** for computers, phones & tablets using Python, Bootstrap, Google Cloud, HTML & CSS
- Created authenticated admin website to allow the host to access metrics of **300+ users**
- Configured Google Firestore to control access to sensitive data to prevent leaks and saving **75%** development time

TERRA MEDIA DESIGN LTD. – *Software Development Intern [Toronto, ON]* February 2018 – June 2018
- Built AR prototype with Blippar SDK & JavaScript, letting users scan signs and boost engagement 50+ stalls
- Containerized AR prototype with Docker and used Terraform to automate deployment, cutting setup time 50%

PROJECTS

TASK HARBOUR
- Collaborated with a team of 12 developers to apply SCRUM methodologies managed by Asana
- Developed user/project-management systems with microservices such as Lambda services, DynamoDB and Cognito
- Designed and programmed frontend pages for login, created new projects, and project list with React, datepicker library
- Handled user-credentials through salting and hashing and used boto3 library to develop microservices in Python

PEER-TO-PEER FILE TRANSFER
- Implemented index server and peer applications with UDP for peer to server, and TCP for peer to peer in Python
- Monitored I/O resources with select syscall and synchronously handle events from standard input and TCP sockets
- Created data structures for transfer and control information and file data

SELF-DRIVING VEHICLE IN A GAME
- Developed a self driving car, capable of staying between lanes using Python, OpenCV, NumPy, pywin32 libraries
- Designed lane detection using HSV color masks, Hough lines and Canny edge detection in a region of interest
- Applied direct input with game with PyAutoGUI for the algorithm to choose the turning direction based on the speed

COUNTING PEOPLE IN A ROOM
- Utilized imutils to read and process a webcam video into Python to resize and find the framerate
- Examined annotations on detected objects created by a Single Shot Detection Model with OpenCV
- Calculated the centroid of objects to determine the number of moving people and the distances between them
- Evaluated the distance from a person to the estimated line where the door is to determine if the person has entered
- Built an e-mail sending function with smtplib to send an e-mail over the SMTP protocol and notify the recipient if there are more people than the code expects