Ashwath Krishnan

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EDUCATION

University of Illinois Urbana-Champaign *Expected Graduation: May 2025*
Master of Computer Science **GPA - 4.0/4.0**
Courses: *ML + Data Systems, Artificial Intelligence, Software Engineering, Database Systems*

PES University *August 2019 – July 2023*
Bachelor of Technology in Computer Science and Engineering **GPA - 3.8/4.0**
Courses: *Data Structures, Operating Systems, Object Oriented Programming, Cloud Computing*

SKILLS AND INTERESTS

Programming Languages: Java, Python, C, C++, SQL, JavaScript, Swift, HTML, CSS
Cloud & Databases: Microsoft Azure, Google Cloud Platform, Amazon Web Services, dbt, MongoDB, NoSQL, Neo4J, MySQL, Postgres
Libraries and Frameworks: React.js, Node.js, Express.js, jQuery, PHP, Django, Flask, FastAPI, Spring Boot, TensorFlow, PyTorch
DevOps & Tools: Docker, Kubernetes, Unix, GitHub Actions, Git, REST API, Linux, Figma, Terraform, Ansible, Agile, Jira, Confluence
Data Engineering: AWS (Amazon S3, Glue, Athena), dbt, Apache Spark, Kafka, Airflow, Databricks, ETL Pipelines, Tableau

EXPERIENCE

University of Illinois Urbana-Champaign *February 2024 – Present*
Software Engineer, iOS *Urbana, Illinois*
- Develop a conversational iOS app with SwiftUI for blind users, enhancing exercise tracking and user engagement by 66%
- Integrate Apple HealthKit and OpenAI's GPT and Whisper APIs to process speech for personalized health recommendations
- Leveraged Azure CosmosDB and Azure Cloud services to ensure scalability and reliability, increasing app performance by 57%
- Containerize the FastAPI backend with Docker, streamlining deployment and ensuring consistent environments

Zebra Technologies (Motorola) *January 2023 – July 2023*
Software Development Intern *Bengaluru, India*
- Created a device tracking portal using ReactJS and Firebase, designing 8 Firebase functions to enable Walmart warehouse managers to monitor the status of Zebra devices, resulting in a 12.5% increase in operational efficiency
- Engineered and executed 10+ SQL queries in BigQuery, optimizing data retrieval and analysis for device management
- Enhanced software reliability by designing 500+ Jest test cases, achieving an 18% increase in code coverage
- Pioneered a proof of concept with jest-stare to visualize unit test cases and code coverage for key modules

Soroco *June 2022 – August 2022*
Software Engineer Intern *Bengaluru, India*
- Worked on the Data Pipeline team, optimizing workflows using Apache Airflow and integrating Great Expectations into Azure Pipelines for automated data quality assurance
- Reduced data validation issues by 22% with a comprehensive 130+ expectation suite for SQL database tables
- Integrated the expectation suite into Azure Release pipelines to support a robust CI/CD process
- Designed and verified test cases for multiple data pipelines using Datadog, monitoring data quality at 12-hour intervals

PROJECTS

Rume | *ReactJS, Node.js, Express.js, MongoDB Atlas, Docker*
- Engineered a full stack real-time chat application, to enhance student communication within university chat rooms
- Implemented Passport.js, an authentication middleware, for robust user authentication, ensuring security and data integrity
- Deployed Socket.IO to enable real-time messaging, reducing latency by 30%, improving user experience
- Orchestrated a microservices architecture with Docker, segmenting user, rooms, and chat services to optimize end-to-end scalability and maintainability, while integrating MongoDB Atlas for efficient data storage and sub-millisecond retrieval

EnrollMints | *React, Flask, MySQL, Google Cloud Platform*
- Crafted an enhanced course registration system for Computer Science degrees at UIUC, integrating ReactJS for the frontend and Flask for backend functionalities
- Designed features include course and professor reviews, wait lists, course prerequisites, and workloads
- Built a comprehensive dashboard with ReactJS to display degree progress, credit requirements, and workload analysis, facilitating efficient academic planning and increasing student satisfaction by 45%
- Hosted the MySQL database on the Google Cloud Platform, improving data retrieval times by 23%

Fitt | *ReactJS, Flask, OpenCV, MediaPipe*
- Created a real-time Gym Instructor using ReactJS and Flask, achieving a 36% improvement in posture alignment during exercises such as push-ups, planks, and bicep curls
- Integrated MediaPipe to accurately detect and analyze 32 human joint positions, providing real-time feedback to users
- Enabled dynamic feedback mechanisms using WebSockets to stream video data from Flask to ReactJS seamlessly
- Analyzed real-time data with OpenCV to deliver precise, user-specific corrections, significantly enhancing exercise effectiveness and safety for users, leading to increased user retention by 70%