Karthik Chintamani Dileep

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Education

Northeastern University - Boston, MA   September 2022 - May 2024
Master of Science in Computer Science   GPA: 4.0
Coursework: Algorithms, Design Patterns, Cloud Computing (AWS), Web Development, Andriod Development, Information Retrieval, Database Management

Technical Skills

Languages: Python, SQL, R, Java, C++
Frameworks/Libraries: Django, Flask, Tensorflow, Keras, OpenCV, Apache Spark, Kafka, Airflow, Git version control
DevOps tools and Development: AWS, Jenkins, Docker, CI/CD, ElasticSearch, Kibana, Agile, Scrum, Jira
Databases: MySQL, MongoDB, NoSQL
IDEs and Operating Systems: Visual Studio Code, IntelliJ, PyCharm, Linux, Unix, Mac OS, Windows

Experience

Addgene Inc - Software Engineer Co-op   May 2023 - December 2023

- Leveraged **ORM** queries to optimize **Django** backend with CI/CD pipelines for 1000+ customers.
- Led agile test-driven development (**TDD**) for a resilient, full-stack application, incorporating **REST APIs** using **JavaScript**, and documented over 100 test suites.
- Containerized front-end dev tools including HTML/CSS validators, linters, and formatters using **Docker** enabling one-click access from IDE and **CI/CD** pipelines.
- Collaborated with cross-functional teams including product management and participated in code reviews to strategically prioritize deliverables and achieve 100% product goals.
- Researched 10+ Large Language Models (**LLM**) to streamline search results, personalize product recommendations.

MARG Innovations - Software Engineer Intern   July 2020 - September 2020

- **Smart Verification:** Developed and deployed **ETL** pipeline using image processing to extract, transform, and load data from user images, demonstrating proficiency in data pipeline orchestration and optimization.
- Engineered **RESTful** microservices with **Flask**, facilitating efficient communication between system components
- **App User Insights Dashboard:** Developed a web dashboard to analyze over 10K reviews using **Topic Modelling** and **N-gram frequency distributions** to identify the dominant opinions among users.
- Utilized **Python** libraries such as **Matplotlib**, **Seaborn**, and **Plotly** for data visualization, enhancing data comprehension and facilitating informed decision-making.

Projects

SearchXpert: Advanced Information Retrieval Toolkit | *Python, NLP*   January 2024 - May 2024

- Implemented real-time monitoring and alerting using **Elasticsearch** and **Kibana**, leveraging **Kafka** for data ingestion and **Apache Spark** for data processing, enabling detection of anomalies.
- Built data **indexing**, **partitioning** strategies using **Apache Spark** to enhance system performance and scalability, resulting in a 40% reduction in query response times and enabling efficient data retrieval in large datasets.
- Developed custom web crawling scripts to extract and catalog data from targeted websites for **data modeling**, orchestrated using **Apache Airflow** for seamless workflow management and scheduling.

Foodie Palace - Restaurant Management Tool | *SQL, Python, Flask, HTML, JS*   September 2022 - December 2022

- Designed an interactive user-friendly web application using **Flask** and **SQL** to manage daily operations such as **point of sale (POS) transactions** and **customer relationship management (CRM)**.
- Architected a database schema with 15 tables and **CRUD** operations with real-time order and inventory data access through an intuitive **CRM** interface for restaurant staff.
- Leveraged **AWS** services including **EC2**, **S3**, **RDS**, and **CloudFront** to ensure scalability, reliability, performance optimization, and monitoring.

Trader360 - Stock Portfolio Management | *Java, MVC, SOLID Principles*   September 2022 - December 2022

- Created a desktop stock portfolio management application utilizing **Model View Controller (MVC)** architecture principles and **Java Swing** for an intuitive, interactive GUI.
- Adopted object-oriented design (**OOD**) patterns like **Factory**, and **Builder** to create extensible architecture.

Determining Cervical Vertebrae Staging with Lateral Cephalograms using AI | *Python, Tensorflow, OpenCV*   August 2021 - June 2022

- Fine-tuned classification models, adjusting hyper parameters for neural networks such as **VGG19**, **Inception**, and **MobileNet**. Achieved accuracy of 96% for **MobileNet** by appropriate parameter tuning.