

# Dene Farrell

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## Professional Summary

I lead organizations forward into modern technology solutions by directly addressing the hard trade-offs in the complex spaces of cloud computing, distributed systems, data platforms, and enterprise technology strategies. I am especially effective at distinguishing which products and vendors are critical to the success of an organization. I bring with me two decades of technical experience and ten years of leadership roles. I have lead teams and products of varying sizes from small to large. I have developed enterprise data and technology strategies for organizations greater than 200 people.

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## Experience

### **Defense Digital Service** - Digital Service Expert

Washington DC, November 2020 - Present

- Lead a team of developers to transition from monolithic applications to distributed computing. In collaboration with the team, we successfully reengineered a system design from an overloaded web application into decoupled microservices that leverage serverless architecture solutions.
- Designed, developed and deployed a real-time streaming analytics platform for ingestion of and machine learning on IoT data.
- Established a cloud-based data brokering service allowing for integration of external data producers and data consumers across the DoD.
- Supported the the Afgan Noncombatant Evacuation Operation rapid response support in partnership between DDS and the State Department. Contributed to larger team efforts by rapidly deploying underlying cloud infrastructure for future application development and deployment.

### **Latch** - Senior Manager, Data Engineering

New York, Sept 2019 – Nov 2020

- Managed a team of five including three data engineers, a data scientist, and a business analyst
- Delivered several cross-company services: Data Centralization and Governance, Data Ecosystem Management with Automated Analytics, Company Operational Notifications, CRM to ERP Integration, PII Anonymization, ML Pipeline Development and Deployment Framework.
- Coordinated central data platform initiatives with diverse stakeholders while constantly adapting to meet the day-to-day data needs at Latch.

## **Capital One** - Principal Data Engineer

New York, May 2017 – Sept 2019

- Lead Card-on-file Detections: Successfully deployed a classification pipeline that identifies for all credit card holders which merchants have stored their credentials on file. Lead a team of four to five software engineers and data scientists of the course of this work.
- Developed a general purpose data visualization tool for handling highly inter-related categorical variables at high volumes, high state variability, low documentation and low stability. Leveraged Spark and D3. Implemented on credit card transaction data.
- Re-architected a monolith ML application to microservices using AWS serverless services.
- Implemented a comprehensive customer profile feature engineering pipeline to service a multi-armed bandit call schedule recommendation service with Python, Snowflake, and Kubernetes.

## **Insight Fellows Program** - Data Engineering Fellow

New York, Jan. 2017 – Mar. 2017

- Deployed Fleetingly, a taxi fleet analysis application for scalable sensing of geospatial patterns
- Implemented fleet performance analysis with live streaming and historical pattern visualizations.
- Tech stack: Kafka, Spark Streaming, Elasticsearch, Kibana. [Python + Scala]

## **Sloan Kettering Institute** - Software Engineer

New York, Dec. 2008 – Jan. 2017

- Built image processing applications for understanding early Drosophila embryo development.
- Made advanced computational tools accessible to non-technical users with intuitive interfaces.
- Enhanced image processing capabilities in order to analyze previously unobtainable 4D data.
- Co-authored several publication in premiere journals such as Nature.
- Built applications with Matlab, Python, and Java

# Education

**2008**                      **M.S., Systems Science**; State University of New York, Binghamton

**2006**                      **B.S., Bioengineering**; State University of New York, Binghamton

# Side Projects

## **Gifthorse Inc** - Founder and Developer

New York, June 2018 – Present

- Developed a fun and easy to use gift recommender service
- Django Web Backend, React Frontend, Scala Data Engineering and ML Backend
- Services implemented: product parsing and updating, basic frontend functionality, basic recommendation functionalities, authentication, CICD Deployments

# Skills

## Programming Languages

**Python:** 10 Years experience.

**Scala, Java:** 3 years experience developing in Scala and Java. Completed Courses from EPFL in Functional Programming and Software Development with Scala.

**JavaScript, Typescript, React:** 2 years experience. I use JavaScript and React in my side project, Gifthorse and leveraged typescript most recently at DDS to contribute to web app products.

**SQL:** I have built several products that leverage RDS (Postgres), Snowflake, Spark SQL and Teradata. Additionally I have build and integrate with NOSQL systems such as MongoDB, Elasticsearch, and DynamoDB.

**Shell (Bash):** e.g. [dots](#)

Basic knowledge:

**C++, D3, Mathematica, Matlab, Perl**

## Data Engineering

AWS, Sagemaker, Kafka, Spark, EMR, DynamoDB, AWS Lambda, Flask, Django, ElasticSearch, Airflow, Luigi, Ansible, Jenkins, CircleCI, Snowflake, Docker, Kubernetes, System Architecture and System Design, Looker, Terraform

## Machine Learning

Classification, Regression, Data Wrangling, Feature Engineering, Entity Resolution, Artificial Neural Networks, Unsupervised Learning Algorithms, K-Means Clustering, PCA, Data Visualization

## Team Management

Roadmap Planning, Jira, Agile, Scrum, Kanban, Stakeholder Communication, Software Team Productivity Enhancements, Architecture Decision Records, Software and Data System Documentation Strategies

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