

DENE L. FARRELL

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PROFESSIONAL EXPERIENCE

Defense Digital Service, Washington D.C. - Data Architect Nov 2020– Present

- 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.
- DDS Rogue Squadron stack: typescript, Python, API Gateway, Lambda, Kinesis, S3, Snowflake, CircleCI, Data Dog, Serverless Framework, Terraform

Latch, New York - Senior Manager, Data Engineering 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 Job Support, Company Operational Notifications, CRM to ERP Integration, PII Anonymization, ML Pipeline Development and Deployment Framework
- Worked with a varied set of internal stakeholders while adapting to meet the data needs across Latch.
- Latch stack: Scala, Python, EKS, Lambda, Kinesis, S3, Snowflake, Looker, Airflow, Jenkins, CircleCI, Serverless Framework, Cloud Formation

Capital One, New York - Principal Data Engineer Mar. 2019 – Sept 2019

[Card Tech Line of Business - Collections]

- Snowflake ETL Pipelines
- Collaboration between DE and DS, Multi-Arm Bandit Deep Learning Models
- Kubernetes deployments
- Jenkins CICD
- Feature set development across diverse data sets spanning many LOBs
- Card Tech stack: Snowflake, Kubernetes, Jenkins, Python

Capital One, New York - Principal Data Engineer June 2018 – Mar. 2019

[Card Tech Line of Business - Paribus]

- Lead machine learning engineering in Paribus Hotels.
- Rearchitected a legacy monolith into microservices with AWS serverless services.
- Implemented extensive testing, instrumentation, and automated deployments.
- Paribus stack: Lambda, Dynamo DB, SQS, SNS, ElasticSearch, X-Ray, Jenkins, Python, NodeJS

Capital One, New York - Senior Data Engineer May 2017 – June 2018

[Center For Machine Learning]

- Technical lead for CardOnFile detections pipeline and RESTful API
- Developed and deployed supervised and unsupervised ML models for detections.
- Fully automated deployments and rehydrations for a low maintenance production system.
- Developed D3 based data visualization tool for complex categorical data.
- CardOnFile stack: EMR, Hadoop, RDS, S3, ECS, D3, Jenkins, Luigi, Ansible Tower, Python

Insight Data Science, New York - Data Engineering Fellow 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 visualization.
- Fleetingly stack: Kafka, Hadoop, Spark Streaming, ElasticSearch, Kibana, Python, Scala

Sloan Kettering Institute, New York - Software Engineer June 2015 – May. 2017

- Developed image processing, computer vision tools and interface design for understanding early *Drosophila* embryo development with Matlab, Java, Python, C++
- Made advanced computational tools accessible to non-technical users with intuitive interfaces.
- Enhanced image processing capabilities in order to analyze previously unobtainable 4D data.
- Created a full 4D segmentation and movie viewing, segmentation, correction, and analysis interface.

Howard Hughes Medical Institute, New York - Senior Research Technician Dec. 2008 – June 2015

- Collaborated with PhD candidates and postdoctoral fellows to formalize and develop computational approaches to quantify cell behaviors in the *Drosophila* embryo.
- Reduced man-hours required for analyzing a movie from 20hrs to 8hrs by enhancing automatic cell recognition algorithms and improving workflow automation.

EDUCATION

State University of New York, Binghamton

M.S. Systems Science 2008

B.S. Bioengineering 2006

Technical University of Graz, Austria

German Language Study and Evolutionary Robotics Research 2004 – 2005

SIDE PROJECTS

Gifthorse Inc, New York - Founder and Developer June 2018 – Present

- gifthorse.shop — a fun and easy gift recommender service
- Django Web Backend, React Frontend, Scala Data Engineering and ML Backend
- Deployed to AWS on a simple tech stack (Route53, ELB, EC2 + Docker)
- Services implemented product parsing and updating, basic frontend functionality, basic recommendation functionalities

PUBLICATIONS

Farrell DL, Weitz O, Magnasco M, Zallen JA. SEGGA: A toolset for rapid automated analysis of epithelial cell polarity and dynamics. *Development* 144(9), 1725-1734 (2017)

Paré AC, Vichas A, Fincher CT, Mirman Z, **Farrell DL**, Mainieri A, Zallen JA. A positional Toll receptor code directs convergent extension in *Drosophila*. *Nature* 515, 523-527 (2014).

Kasza KE, **Farrell DL**, Zallen JA. Spatiotemporal control of epithelial remodeling by regulated myosin phosphorylation. *Proceedings of the National Academy of Sciences*. 111, 11732-11737 (2014).

Tamada M, **Farrell DL**, Zallen JA. Abl regulates planar polarized junctional dynamics through β -catenin tyrosine phosphorylation. *Developmental Cell* 22, 309-319 (2012).

Sayama H, **Farrell D**, Dionne SD. The effects of mental model formation on group decision making: An agent-based simulation. *Complexity* 16, 49-57 (2011).

Simoes SD, Blankenship JT, Weitz O, **Farrell DL**, Tamada M, Fernandez-Gonzalez R, Zallen JA. Rho-kinase directs Bazooka/Par-3 planar polarity during *Drosophila* axis elongation. *Developmental Cell* 19, 377-388 (2010).

Farrell D, Hubler A, Brewer J, Hubler I. Acceleration beyond the wave speed in dissipative wave-particle systems. *Complexity* 15, 8-11 (2010). DOI: 10.1002/cplx.20321.

Farrell D, Sayama H, Dionne SD, Yammarino FJ, Wilson DS. Evolutionary Perspective on Group Decision Making. Submitted to International Conference of Complex Systems (2007).

Dionne SD, Sayama H, **Farrell D**, Yammarino FJ, Wilson DS, Federman J., Carroll E., Gause D. Evolutionary perspective on group decision making: A within- and between-groups simulation, presented as a talk and paper at the Annual Meeting of the Academy of Management (2007).

Eldakar OT, **Farrell DL**, Wilson DS. Selfish punishment: Altruism can be maintained by competition among cheaters. *Journal of Theoretical Biology* 249, 198-205 (2007).