Jorge Navarro

Data Engineer

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Summary

Highly accomplished Data Engineer with 10+ years of experience in designing, developing, and optimizing scalable data solutions and microservices. Proven expertise in building robust data pipelines with Apache Airflow, FME, and Palantir Foundry, and leading observability strategies that significantly improve incident response. Adept at full-stack development, cloud deployments (AWS, Azure), and leveraging various DBMS to drive data health and empower data-driven decision-making.

Skills

Data Tools	Database Systems	Core Languages	Frameworks/Libraries	DevOps
Airflow, Feature Manipulation Engine (FME), Palantir Foundry, Prometheus, Grafana, Loki, OpenTelemetry	PostgreSQL, Snowflake, MySQL, Oracle, SQLite	Python, SQL, Shell, HTML, CSS, JavaScript, C/C++, Java	Flask, FastAPI, Typer, Bootstrap, Pandas, Matplotlib, Jupyter Labs	AWS, Azure, Kubernetes, IaC, CI/CD, Docker, Git, Linux

Professional Experience

Professional Member of Technical Staff, AT&T Inc., CA, JUL 2023 – APR 2024

- A robust strategy for incident response and alerting to improve system reliability and reduce downtime was required, prompting the development of an observability engineering strategy.
- Initiated the adoption of Grafana, OnCall, Prometheus, and Loki, and explored OpenTelemetry for log and metric collection.
- Implemented an incident response pipeline using Grafana alert rules, OnCall's alert groups, and escalation chains. Assisted in deploying Grafana and OnCall into AKS and contributed to the administrative Grafana management codebase.
- This strategy enabled efficient incident response management and alerting, leading to a reduction in incident resolution time, improved system uptime, and faster stakeholder notification.
- Contributions to the Grafana management codebase enhanced email notification functionality as well.
- Existing monitoring dashboards lacked detail and dynamic capabilities, hindering effective data analysis leading to the development of new and the enhancement of existing Grafana dashboards.
- Designed and created new Grafana dashboards for data, application, and infrastructure monitoring.

- Collaborated with downstream stakeholders to integrate dynamic filtering and linking between dashboards for related signals.
- Configured necessary data sources and integrations for alerts.
- These enhancements provided improved data visibility and actionable insights, allowing for faster identification of issues, improved decision-making for 5+ teams, and more efficient monitoring of workflows.

Professional-Software Engineer, AT&T Inc., CA, JUL 2019 – JUL 2023

- A need for more robust data pipelines to manage and ensure the health of mobility transport data was identified, therefore engineered and optimized critical data pipelines.
- Engineered end-to-end data pipelines using Apache Airflow, the Feature Manipulation Engine (FME), and Palantir's Foundry. This included committing schedule corrections to Airflow DAGs and authoring new DAGs.
- Developed several ETL pipelines with FME and managed a significantly sized ELT pipeline in Palantir's Foundry product.
- This work ensured data health and end-to-end data pipeline observability for the mobility transport space, resulting in improvement in data accuracy, reduction in data processing time, and support for numorous critical business operations.
- Further, the team required a standardized, deployable solution for ReST APIs to support numerous AT&T network elements and internal tools.
- Led the design and development of a ReST API template.
- Designed and developed a Flask-based ReST API template addressing cross-cutting concerns like configuration, authentication, authorization, logging, and OpenAPI Specification (OAS). Included all necessary artifacts for deployment into Azure Kubernetes Service (AKS).
- Leveraging this template, launched numerous API microservices supporting various network elements (e.g., anti-spam, mobility switch orchestration) and team tools (e.g., Jira project issue analysis API).
- Deployed a central Swagger UI instance in order to centralize API documentation.
- This template accelerated API development and deployment, providing scalable and reliable microservices that improved service reliability, streamlined network operations, and enabled self-served data analytics for teams.

Professional-Network Planning Engineer+, AT&T Inc., CA, JUL 2017 – JUL 2019

- Since the Engineering Rules Database (ERD) legacy system required continuous maintenance, refactoring, and feature enhancements, collaborated with other Java software developers and shared responsibility for the full software development life cycle of the ERD.
- Committed several enhancements, fixes, and code refactorings to the ERD, which featured an N-tier architecture (Ext JS GUI, Java for the business logic, and an Oracle database). Implemented several end-to-end features providing CRUD functionality for network element capacity planners.
- These contributions improved the system's stability and usability, directly supporting 15+ capacity planners, streamlined hundreds of engineering rule updates, and improved data consistency and availability.

Sr Specialist-Network Planning Engineer, AT&T Inc., CA, NOV 2013 – JUL 2017

- Due to the need to define and report network element Key Performance Indicators (KPIs) and Key Capacity Indicators (KCIs) for performance monitoring, designed, developed, and implemented KPIs and KCIs in utilization and performance reports.
- Leveraged the Logi Analytics platform, utilizing engineering rules, KPI/KCI definitions, and metrics formulas derived from discussions with key stakeholders. Collaborated closely with capacity managers, vendors, labs, and other teams to engineer pertinent network performance criteria for physical and virtual network compute nodes.
- This work resulted in comprehensive performance reports, providing critical insights that led to proactive network adjustments for capacity, improved decision-making for network upgrades, and a clearer understanding of network health metrics. Also, given repetitive tasks within network planning presented opportunities for automation and efficiency gains.
- As a result, identified and implemented mechanization opportunities and developed tools. Applied software development analysis and design principles to automate repetitive tasks and developed tools to improve accuracy and efficiency, resulting in a Engineering Rules Database (ERD) web service, a central location for KPIs, KCIs and other details for network elements.
- This automation along with the ERD led to a significant reduction in manual effort, improvement in data accuracy, and hours saved per week.

Capacity Engineer, AT&T Inc., CA, JAN 2012 – NOV 2013

- Collaborated closely with two different teams and vendors for the effective management of network and network element capacity, including physical space utilization at AT&T central offices.
- Managed physical capacity for networks and network elements and monitored physical space utilization as well as heat dissipation of the equipment.
- Trended physical space utilization for Central Offices in the San Gabriel and San Fernando Valleys.
- Analyzed forecasts and calculated impacts on physical placement of network elements using heat management studies.
- As an AutoCAD subject matter expert, aided in developing C#-based automation solutions.
- These efforts ensured optimal network capacity utilization and informed critical physical placement decisions. The C#-based solutions contributed by automating common AutoCAD tasks, leading to greater efficiency and consistency in the layout and design workflow.

Education

- Masters of Science in Computer Science
    - Georgia Institute of Technology, Atlanta GA. *expected 2027*
    - Current GPA: 3.85 (*4.00 scale*)
- Bachelor of Science in Electrical Engineering
    - California State Polytechnic University, Pomona, CA. June 2011