



TECHNOLOGY
DEVELOPMENT
PROGRAM

INTERNEXPO

2023

Atlantis Feature Store Activity and Lineage Page Development

A glimpse into my summer of personal growth
and skill building as a TDP intern

Sai Neelanjana / Systems and DevOps Engineering Intern

August 9, 2023

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Sai Neelanjana

System and DevOps Engineering Intern
Atlantis Feature Store Team

Education:

University of Texas at Austin

- B.S. in Computer Science
- Minor in Business



Previous Experience:

- AT&T Technology Academy – TBM
- Research/Development Intern at Vanguard College Prep
- UT Austin Freshman Research Initiative – Energy Analytics | Conoco Phillips

Hometown:

- Coppel, TX
- Hyderabad, India

Leadership Experience:

- Publicity Chair - Women in Computer Science (WiCS) @ UT Austin

Hobbies and Interests:

- Photography
- Travel

Introducing the Atlantis Team



Himanshu Tiwari

Principal – Big Data Software Engineer

Business Partner | Mentor | Point of Contact



Krishna Pandraju

Senior – Big Data Software Engineer

Backend Data Engineer Support



Also received help from the team with

- UI Development
- Backend API support



*“Centralized repository for **storing, updating, retrieving,** and **sharing features** used in machine learning models across different projects”*

Project Statement:

*How can we design an **Activity and Lineage Page** for the Atlantis Feature Store to provide users with a comprehensive view of feature set manipulation and historical information?*

Background

Atlantis Feature Store is a critical component enabling teams to **access and share AI/ML features**. However, the lack of an activity and lineage page made it challenging for users to:

- track feature set changes
- understand who is using their data
- find popular feature sets
- identify the origin of feature sets
- understand overall data flow

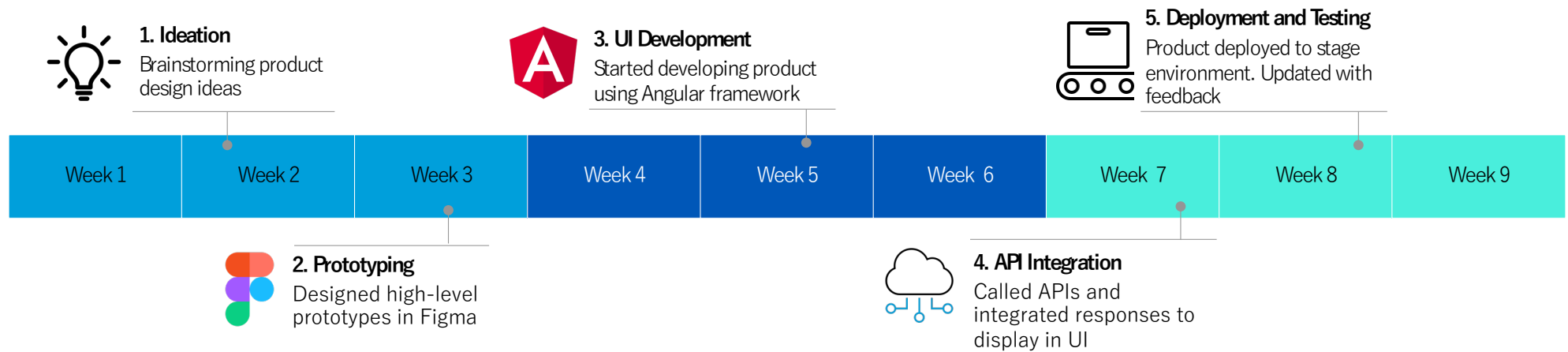
Findings

- View activity history
- Understand who made specific changes
- Ensure data quality through the logs
- Gain insight into how the data evolves over time
- Search and filtering capabilities help manage large volumes of activity logs

Conclusion

- Enhances data transparency and traceability
- Fosters data-driven culture
- Enables more informed decision making and accountability

Project Timeline



Activity and Lineage Page

Figma High Fidelity Prototypes



The Activity page in the Atlantis Feature Store shows a list of recent events. The header includes a menu, a breadcrumb 'Feature Sets / Employee Skills', and a 'BACK' button. The main content area has a search bar, a 'Categories' dropdown, and a 'Select Date Range' button. The activity log shows events like 'Version Change: Updated scope to: (2023-06-21T00:00)' and 'Stats updated on 2023-06-21'.

The Lineage page in the Atlantis Feature Store shows a diagram of data dependencies. The header includes a menu, a breadcrumb 'Feature Sets / SaiTestDerived', and a 'BACK' button. The main content area shows a lineage graph with nodes for 'Employee Skills', 'Employee Salary', 'Employee Details', and 'Employee Overview'. The 'Employee Overview' node is highlighted, showing its project and join key.

Custom Filter for Derived Feature Sets

The Custom Filter page in the Atlantis Feature Store allows users to create custom filters. The header includes a menu, a breadcrumb 'Derived Feature Sets / Create', and a 'Contact Us' button. The main content area has a 'Filter lets you create custom filters using various operators' section. It includes dropdowns for 'Operator', 'Project', 'Feature Set', and 'Feature (Key Field)'. A 'Custom Filter' input field is also present.

Atlantis Feature Store Support Page

The Support and Help page in the Atlantis Feature Store provides resources for users. The header includes a menu, a breadcrumb 'Contact Us', and a 'Support and Help' section. The main content area has a 'Templates' section with buttons for 'CSV Files', 'JSON Files', 'Parquet Files', 'Snowflake', 'CSV Folder', 'JSON Folder', 'Parquet Folder', and 'Delta Table'. There is also a 'Documentation' section with a link to 'Access the Atlantis Feature Store Library for more details and help'.

Activity and Lineage Page – Deployed in Dev Environment

The screenshot displays the Atlantis Feature Store interface. The top navigation bar includes the Atlantis logo, a search bar, and statistics: 368 Projects, 889 Feature Sets, 18293 Features, and 109 Users. A user profile for SAI NEELANJANA is shown in the top right. The left sidebar contains a menu with 'Home', 'Projects', 'Feature Sets', and 'Access Control'. The main content area is titled 'Feature Sets / test activity page' and shows details for 'test activity lineage' and 'test activity page'. It includes filters for 'Project Access' and 'Feature Set Access', both set to 'ON'. A 'Number Of features' field shows '5'. Below these are buttons for '+ ADD ARTIFACTS' and 'VIEW DATA'. A tabbed interface shows 'Overview' and 'Activity'. The 'Activity' tab displays a search bar, a 'Category' dropdown (with options: Data Validations, Data Ingestions, Data Retrievals, Metadata Updates, New Statistics), a 'User' dropdown, and a 'Select Date Range' field. A 'RESET ALL' button is also present. A notification box shows 'Feature set was created.' with a timestamp of 'August 7, 2023 v1.0 12:09 PM' and a status icon 'SN'. The footer contains the copyright notice '©2022 AT&T and H2O.ai Intellectual Property. All rights reserved.' and a chat icon.

[Atlantis Feature Store Test FS Link](#)

UI Front-End Development in
Angular/HTML/CSS





Intern Innovation Challenge

Worked on team S.T.A.R.S to design solution using AI to optimize emergency dispatch process

Took on the role of **Scrum Master**

Scheduled meetings, designed prototypes in Figma, and researched current solutions in place

PLE

Taking courses to study for the AZ-900 exam in order to earn the **Microsoft Azure Fundamentals certification**

RTO Volunteer

Handed out cards with workplace resources and greeted new hires and employees returning to office



TDP Accomplishments and Involvement

Workshops

Agile, Data Visualization, Software Engineering, Design Thinking

TDP Events

Enjoyed learning more about the **TDP program** and **AT&T culture** from other employees and TDP full timers at following events

- Girlstart fundraiser
- Pop Culture Trivia
- Power Hour with Angela Baskerville
- Town Hall with John Stankey
- All Hands Meeting
- Feel Good Friday
- Bowlero Networking Event
- Converged Experience Tour
- SOCO Olympics



Project Conclusion

- Effectively collaborated with Business Partner team to design, develop, and deploy new activity and lineage pages
- Designed prototypes for two side projects
- Made meaningful relationships with BP Team, AD, and fellow interns

Future Work

- Improve search capabilities on the activity page
- Introduce third layer to lineage page
- Develop Atlantis Support Page with possible Ask AT&T integration
- Continue developing skills in Data Analysis and Full-Stack Development

Major Takeaways

- Figma and UI design
- Angular and HTML/CSS
- API Integration and Front-End Development
- Agile Scrum Methodology
- Effective communication and networking

Special Thanks To...

Atlantis Team

(Himanshu, Krishna, Sharmila, Sushil)

AD Mart Hoover

IIC Team S.T.A.R.S

(Naren, Derek, Eric, Faisal)

TDP Interns

I would love to connect on LinkedIn ^_^ [@sai-neelanjana](#)

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Appendix:

Figma High Fidelity Prototypes

- GIFs and links to Figma designs

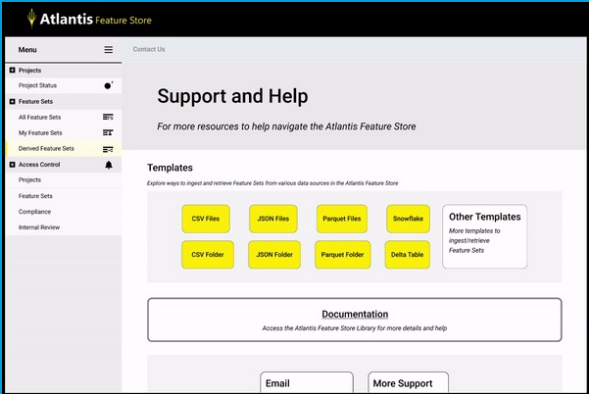
Project Deployed in Dev Environment

- GIF and link to final product deployed in Dev Environment

Weekly Overview Slides 1-8

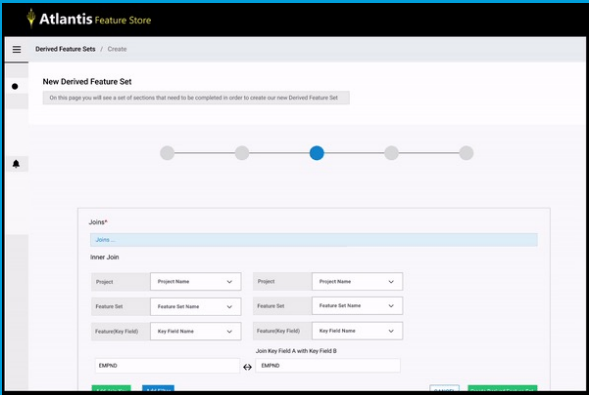
- Slides detailing work done on a weekly basis
- Presented to BP and another intern on the team during weekly sync up

Atlantis Feature Store Support Page



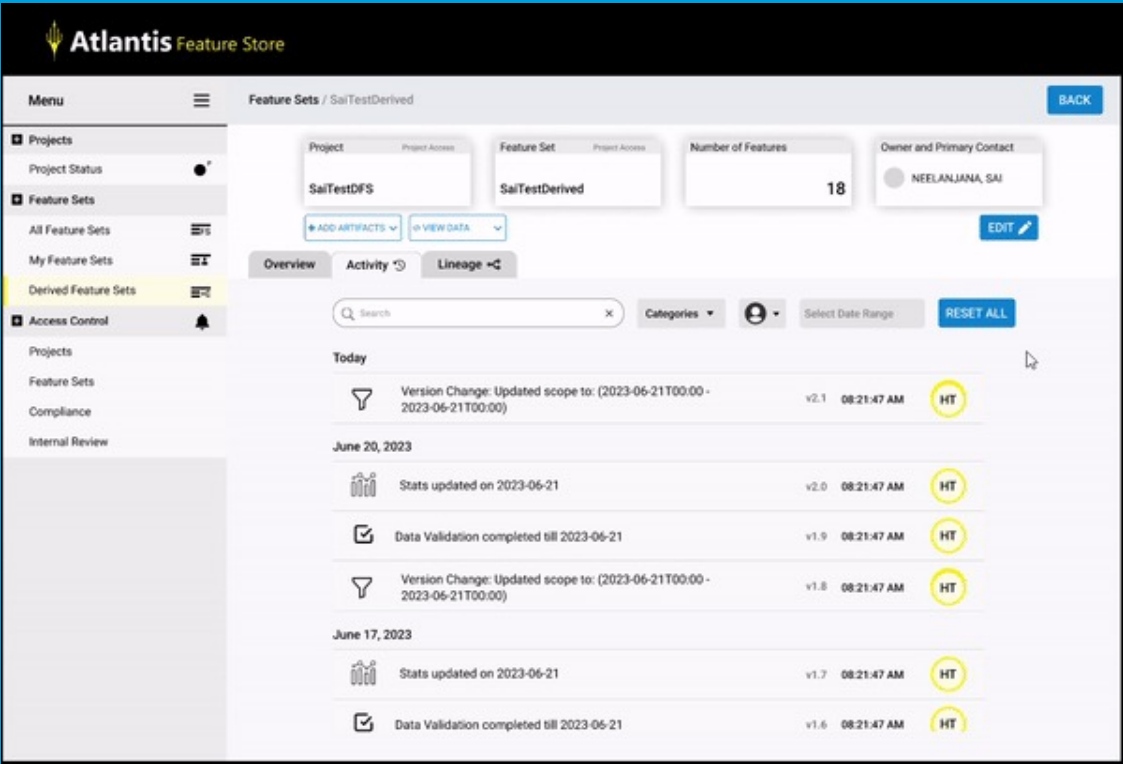
[Figma Link](#)

Custom Filter for Derived Feature Sets



[Figma Link](#)

Activity and Lineage Page



[Figma Link](#)

Figma High Fidelity Prototypes



Activity and Lineage Page – Deployed in Dev Environment

The screenshot displays the Atlantis Feature Store interface. The top navigation bar includes the Atlantis logo, a search bar, and statistics: 368 Projects, 889 Feature Sets, 18293 Features, and 109 Users. A user profile for SAI NEELANJANA is visible. The left sidebar contains a menu with 'Home', 'Projects', 'Feature Sets', 'Access Control', and 'Internal Review'. The main content area is titled 'Feature Sets / test activity page' and shows details for the 'test activity lineage' project. It includes a 'Project Access' status of 'ON', a 'Feature Set Access' status of 'ON', and a 'Number Of features' of 5. The 'Owner & Primary Contact' is listed as NEELANJANA, SAI. Below this, there are buttons for '+ ADD ARTIFACTS' and 'VIEW DATA'. The 'Activity' tab is selected, showing 'Key Details' and a 'Feature List'. The 'Key Details' section includes the project description 'testing activity tab', the feature set description, the created date 'Aug 7, 2023, 12:08:59 PM', and the updated date 'Aug 7, 2023, 12:08:59 PM'. The 'Feature List' section shows a search bar and a list of features: 'employee.id', 'employee.salary', and 'employee.location.city'. A 'DOWNLOAD METADATA' button is also present. The footer of the page states '©2022 AT&T and H2O.ai Intellectual Property. All rights reserved.'

[Atlantis Feature Store Test FS Link](#)

UI Front-End Development in
Angular/HTML/CSS



Week 1 Overview



Onboarding

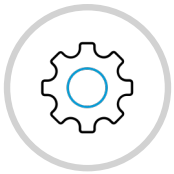
Setting up all AT&T systems
Meeting and connecting with other
TDP interns and the ADs



Business Partner Assignment

Met with BP
Discussed what the team does
Joined Daily Scrum call and was introduced to team
Walkthrough of current UI Flow

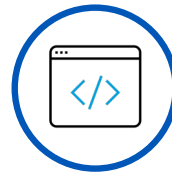
Week 2 Overview



Onboarding

Attended TDP workshops

- Agile
- Time Reporting
- Benefits
- Software Development



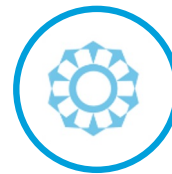
BP Assignment

Custom Filter high fidelity design in Figma

Discussed main assignment for internship

- Create an Activity Page that logs useful information for Atlantis Feature Store Users
- Create Lineage Page to help visualize how feature sets were combined

Designed paper prototypes for Activity and Lineage pages



Intern Innovation Challenge

Attended Kickoff and learnt about challenge

Met with Intern team

Design Thinking Workshop

Started thinking about ideas

Scheduled daily call

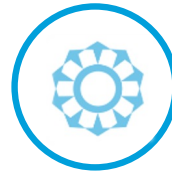
Week 3 Overview



BP Assignment

Established Project Timeline

Designed High Fidelity prototype for Activity and Lineage pages in Figma



Intern Innovation Challenge

Started working on Design Thinking Workbook

Researched more about Emergency Medical Dispatch process

Week 4 Overview



BP Assignment

Established Project Timeline

Started weekly intern sync up to review accomplishments for the week

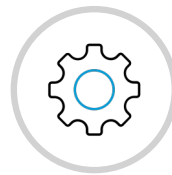
Continued to edit high fidelity design prototypes with iterative development and testing



TDP

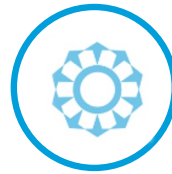
Q2 All Hands Meeting

Power Hour with Corporate Systems, VP, Angela Baskerville



Setting up system

- Resolving proxy and host issues
- Downloading node.js
- Installing Angular framework



Intern Innovation Challenge

Filled out Design Thinking Workbook

Drew up rough paper prototypes for design

Week 5 Overview



Setting up system

- Resolving proxy and host issues
- Downloading node.js
- Installing Angular framework



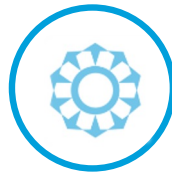
Angular

- Reviewing Bootstrap templates
- Implementing Tab functionality
- Exploring parent/child component interactions
- Previewing design changes in local host



Codebase

- Cloning repo to local machine
- Creating personal branch
- Getting familiar with codebase



Intern Innovation Challenge

- Using AI/openAI to create a business solution for AT&T customers
- Created low fidelity prototypes in figma

*Leveraging AI to support dispatchers, EMTs, and hospitals in emergency medical dispatch procedures, so that we achieve **rapid response times, improved patient outcomes, and efficient resource utilization?***

Week 6 Overview

UI Development

Created component for each activity update

Created component for lineage info boxes as well

Made layouts for all elements flex responsive using media queries

Researched how to create graph lines in CSS/HTML

- LeaderLine
- jQuery Plugin
- TreeFlex

Explored how an API works

- Displaying information from API response JSON in UI

Implementing Search/Filter bar in Activity tab

- Added dropdowns for Categories and User

Researched designs for Atlantis Support Page

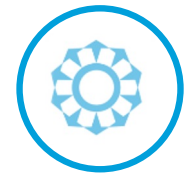


Intern Innovation Challenge

- Patent paperwork for design solution
- Design Thinking Workbook
- Understanding how FirstNet works

CIO Q2 Town Hall with John Stankey

August 9th, 11:05 AM, Teams Meeting link closer to date



Week 7 Overview



UI Development

Designed High Fidelity prototype for Atlantis Support Page in Figma

Internal team demo for support page

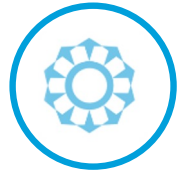
Support Page Demo with BP and Director of Technology

Integrated API with UI to display activities logged in the backend

Modified code for activity filters to work with API

August 9th, 11:05 AM, Teams Meeting link closer to date

Intern Innovation Challenge



- Final presentation slide deck
- Created user flow for Design Thinking Workbook

Week 8 Overview

UI Development



Implemented Pagination

Deployed Activity Page to Stage environment

Testing UI in Stage environment

Internal team demo for Activity Page

Constant communication with backend to look into API responses and layout

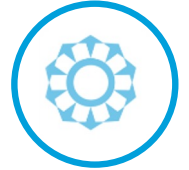
Added new Activity Category, Data Retrievals, and included in dropdown filter with new icon

Changed icons for Data Ingestions

Added “No activity found”

Changed layout of each activity update to use bootstrap flex layout

Intern Innovation Challenge



- Local Demo to ADs
- Created a video to pitch product
- Submitted all deliverables on July 26th

Converged Experience Tour

- Learned about how AT&T Fiber works on a high level and how it is installed

August 9th, 11:05 AM, Teams Meeting link closer to date

