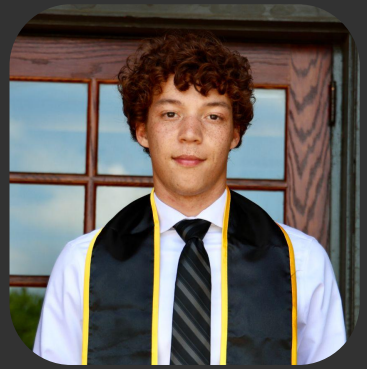
SERVICENOW + NASA

The Next Decade & Beyond

BMSO778E - Experiential Learning
UMD Smith School of Business Spring 2025

SERVICENOW X NASA

Project Team



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AGENDA

01 Business Context

02 Research & Findings

03 Recommendations

04 Appendixes

1

Business Context

How can ServiceNow's technology enable NASA's Marshall, Armstrong, and Ames mission centers to tackle operational challenges and enhance efficiency, collaboration and mission success?

CONTEXTUALIZATION

1. Formation of DOGE

➢ Expected budget cuts and employee layoffs present opportunities for ServiceNow to grow product utilization at NASA

2. Intelligent Automation Directive

➢ Per internal documentation, NASA has already created an integration framework for intelligent Automation Services (IAS)

NASA OVERVIEW

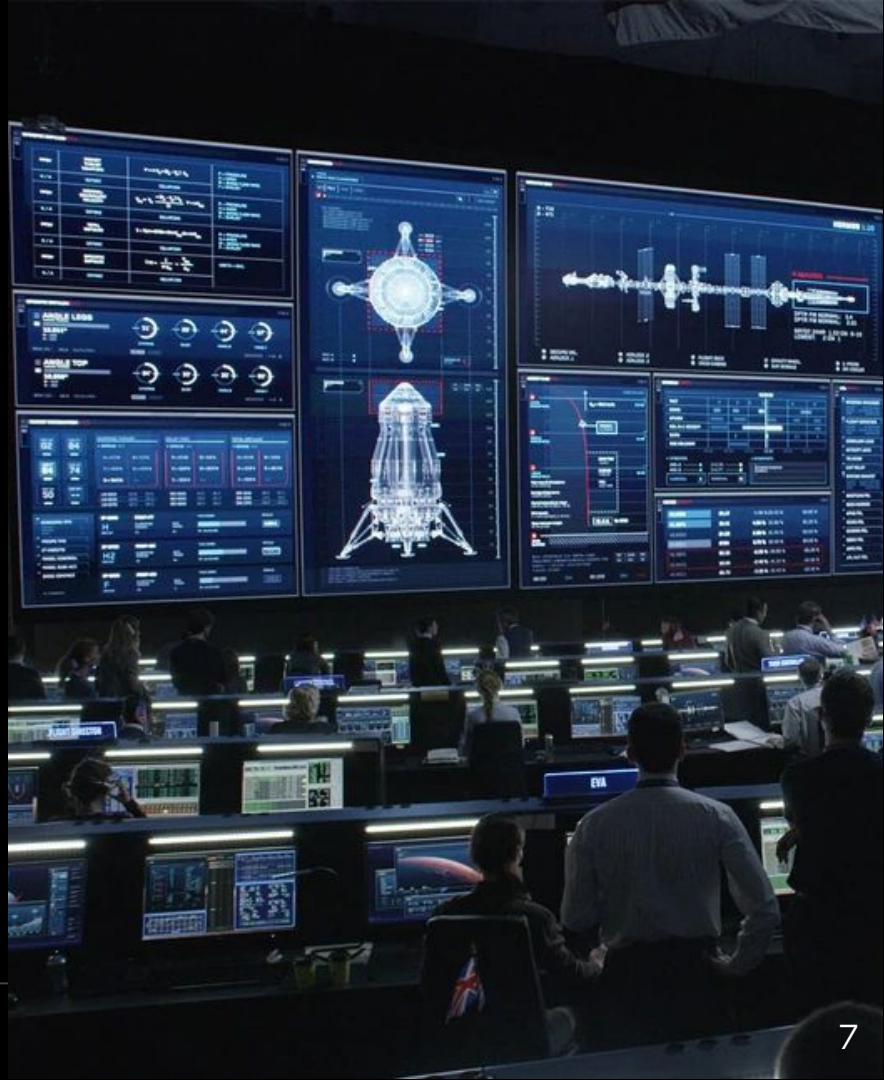
Addressing NASA's Operational Needs with ServiceNow

01 Efficient Communication Between Mission Centers

02 Safety and Privacy of NASA's Research and Database

03 Decrease Processing Time During Work Hours

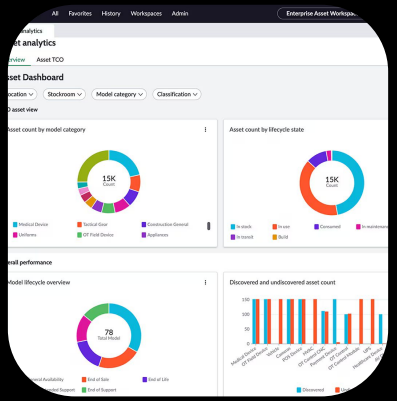
04 Advancements in Artificial Intelligence



SERVICENOW KEY FACTS

NASA'S Partners in Efficiency

- ServiceNow modernized NASA's shared services
- Consolidated data from multiple HR systems into one unified view
- Deployed virtual agents to improve employee experience



Government Transformation Suite

- Offers cloud deployment options with government-grade compliance
- Includes advanced agent chat with smart routing
- Integrates data driven intelligence and machine learning capabilities

ServiceNow at Other Agencies

- ServiceNow is an approved vendor for the Department of Defense (DoD)
- Supports the DoD's IT infrastructure modernization efforts
- Enhances service management, IT operations, and cybersecurity

SERVICENOW & NASA

Partnership History

2015

INITIAL CONTRACT

NASA selects ServiceNow to move its Shared Services Center (NSSC) to the cloud, centralizing IT support and streamlining services such as HR, finance, grants, and procurement

2018

INTELLIGENT AUTOMATION

ServiceNow and NASA launch a new AI-powered service to automate high-value, repetitive tasks, ultimately boosting operational efficiency across mission centers

2023

SOFTWARE ASSET PILOT PROGRAM

ServiceNow and NASA implemented a program to streamline software workflows, allowing the OCIO and NSSC to manage systems through a centralized platform

2024

CONTINUED OPTIMIZATION

In May 2024, NASA launched the ITSM Tool Transition Project to centralize enterprise operations on ServiceNow, focusing on improved IT management

STAKEHOLDERS

Who are we solving for?

01 NASA Employees

02 NASA Leadership Team

03 ServiceNow Account Managers

04 ServiceNow Implementation Team

2

Research & Findings

STAKEHOLDER INSIGHTS

Interview Feedback

NASA

New federal direction for NASA has had critical implications for mission centers

Communication across mission centers over the past decade has greatly improved, and less of a concern today for NASA

servicenow

Refocus on Gen AI and potential implementations

Focus on three NASA mission centers, Armstrong Flight Research Center, Ames Research Center, and Marshall Flight Research Center

MISSION CENTERS

1

Marshall Space Flight Center

2

Armstrong Flight Research Center

3

Ames Research Center

MARSHALL SPACE FLIGHT CENTER

Human Error

Manual systems as the POIC, have resulted in critical errors

Operational Strain

The POIC operates 24/7, affected by DOGE cuts and the NASA hiring freeze

ARMSTRONG FLIGHT RESEARCH CENTER

In research communication with Ames Research facility, Glenn Research Facility, and Langley Research Facility

Center Challenges:

Evolving Research Priorities

Collaboration Across Disciplines

Safety and Regulation

AMES RESEARCH CENTER

Ames's most recent project: VIPER

- Currently looking for industry interest, if no interest, plan is to disassemble and use parts elsewhere

Potential challenges in the communication/meshing of NASA systems with private industry upon "interest"

3

Recommendations

Recommendations for Flight Centers

Marshall

Leverage Gen AI Agents to Reduce Human Error

Offers Real Time Decision-Making Support

Protocol Adherence Monitoring

Fatigue & Risk Detection

Marshall

RISK

Weak Knowledge Base

MITIGATION

Enlist institutional buy-in to expand knowledge base

Continuously update information

Recommendations for Flight Centers

Ames & Armstrong

WORKFLOW DATA FABRIC

ServiceNow provides a service looking at the use of AI for assessing workflow in industries. Allows for general communication and can be used in NASA's case for communication between every mission center

AI WORKFLOWS

AI's ability to generalize and summarize information sent from center to center. Agents will be granted more free time to focus on research and discoveries

DATA PROTECTION

This product can allow full lockdown of NASA's information. Specifically can provide information of when the data was accessed, who accessed it, and where. Limiting security breaches

OPERATIONAL RISKS

Workflow Disruption

Process Incompatibility

CHANGE MANAGEMENT RISKS

Employee Resistance

Training Gaps

Loss of Productivity

MITIGATION

Incremental Introduction

Training Programs

Configure Workflows

Testing

SUCCESS STORIES

Kainos & Lab3

kainos

"Before we found ServiceNow, we had multiple disconnected solutions and processes"

"Using Gen AI to search the employee portal is so much faster, and we're only at the very start of this..."

LAB3

"By unlocking AI capabilities in the Now Platform, we expect to improve the efficiency and quality of our work"

46% reduction in workflow bottleneck

>47% decrease in mean time to resolution with AI

THANK YOU

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Appendix

Appendix: Stakeholder Insights I

2/19 ServiceNow Client Discovery Meeting - Summary Notes
Meeting with:
- Nikhil Mannan
- Brad Richards

Key Takeaways:
- ServiceNow NASA Science Division goal: grow divisions revenue from $75M to $100M in the next 18-25 months.
- ServiceNow NASA account valued at $10M has been stagnant for the past three years and needs a strategy to expand
- NASA faces cross functional inefficiency despite strong internal talent
- There are major communication and collaboration breakdowns across departments
- There is a new federal puh to improve efficiency which we are positioned to do so

Client Direction:
- Focus on conducting research within NASA to identify high impact areas
- Check other document to see if I have any other notes for this meeting

3/19 ServiceNow Client Follow Up - Summary Notes
Meeting with:
- Nikhil Mannan
- Brad Richards

Key Questions Asked to ServiceNow:
- What services do you currently offer at each mission center?
- What challenges/opportunities for improvement do you have with the current deployment?
- What challenges do you have in deploying ServiceNow at each center specifically?
- Do we still focus on the five questions from the initial project overview or shift focus to other solutions we create?
- Any current pricing information to help us figure out any additional pricing to reach our $3 million goal?

Client Direction & Feedback:
New Project focus on three mission centers - MSFC, AFRC, ARC
- MSFC is the only center actively using ServiceNow solutions
- Shift away from creating recommendation that will help sell to NASA
- Instead, focus on future us case, and integration opportunities for ServiceNow Products
- Research how we can leverage AI into future opportunities
- Understand the importance of DOGE and how this will affect NASA
- No data or files will be provides on NASA, we must use all public sourced internal documentation

Appendix: Stakeholder Insights II

4/11 ServiceNow Client Discovery Meeting - Summary Notes

Meeting with:

- Nikhil Mannan - ServiceNow
- Jonathan Reaves - NASA

Key Takeaways:

- HR functions are centralized across the mission centers using a mix of ServiceNow technologies and legacy systems.
- New federal strategic direction for NASA has had critical implications for mission centers. DOGE has caused an increase in employee buyouts and a hiring freeze, leaving NASA understaffed. New leadership at NASA has caused projects to be completely shut down or temporarily paused.
- Communication between mission centers has greatly improved over the last two decades, which has increased mission center collaboration. Data sharing between mission centers has also been increased compared to past decades.

GenAI Refocus

- NASA and ServiceNow both voiced a growing interest in utilizing the capabilities of Gen AI. ServiceNow Gen AI is currently being used in NASA's HR to assist service members with frequently asked questions that are basic enough for the AI agent to answer. Although this technology has not been fully leveraged at other mission centers, there is a high potential to have a capability like this. Nikhil emphasized finding areas where NASA will be able to leverage Gen AI in the mission centers we have been given.
- However, Gen AI is an emerging technology that has not been fully vetted by the US government or leveraged by other US governmental departments. NASA is hesitant to become the first agency to utilize Gen AI in certain areas of its agency. Further, NASA identified the current limitations they have placed on ServiceNow Gen AI to ensure it has a secure parameter in its responses.
- The Gen AI has also had complications with the effectiveness of the product so far. Due to a weak knowledge base of data and information, the outputs the model has created have been relatively poor. To further increase the efficiency of this model, the agency needs to invest in feeding the model better and more information. This led to the thought of a potential expansion from this discussion led to leveraging Gen AI to reduce human error in the POIC and enhancing training workflows.

Strategy adjustment based on findings from our meeting

Jonathan shared that NASA does not share data or other highly sensitive information outside of the NASA footprint.

- This information helped to alter our recommendations. Initially, we had considerations of leveraging a ServiceNow cloud-based system to become the centralized platform of the ISS. But this information helped clarify how this would be severely problematic.

Appendix: NASA Overview I

NASA Strategic Plan

NASA has 4 big focus areas, each with a one-word theme:

- Discover
  - What it means: Learn more about Earth, space, the sun, planets, and the universe.
  - How: By using satellites, telescopes, and space missions to collect data and make scientific discoveries.
  - Why it matters: Helps us understand climate change, protect Earth, and explore the possibility of life beyond Earth.
- Explore
  - What it means: Send humans and robots to the Moon, Mars, and beyond.
  - How: Through missions like Artemis (returning humans to the Moon), developing space technology, and working with commercial space companies.
  - Why it matters: Pushes the boundaries of where humans can go and live in space long-term.
- Innovate
  - What it means: Develop new technologies that solve big problems.
  - How: By working on better rockets, faster and greener airplanes, and safer space travel.
  - Why it matters: These technologies can help both space missions and life on Earth (like improving aviation).
- Advance
  - What it means: Build a stronger NASA by investing in its people, facilities, and operations.
  - How: Attracting diverse talent, updating infrastructure, and embracing flexible work environments.
  - Why it matters: A strong NASA workforce and system are essential to mission success.

There are several special focus areas:

- Climate Change: NASA is using satellites to track how the Earth is changing (sea levels, wildfires, storms) and sharing that data to help communities around the world.
- Equity & Inclusion: NASA wants to be more inclusive—making sure people from all backgrounds have access to NASA opportunities and data.
- Working Together: NASA partners with universities, companies, and other countries to share costs and knowledge.

STEM Education: NASA is focused on inspiring the next generation through education and involvement in space missions.

New Legislation & Policies at NASA

NASA has started a major restructuring process in line with the Trump administration's Department of Government Efficiency (DOGE) initiative, which is focused on streamlining the federal workforce.

As part of this effort, NASA has closed three departments:

- The Office of Technology, Policy, and Strategy
- The Office of the Chief Scientist
- The Diversity, Equity, Inclusion, and Accessibility branch

Additionally, there has been major leadership changes within NASA. President Trump has selected Jared Isaacman to be the new Director of NASA, pending congressional approval. Elon Musk founder of SpaceX and now Senior Advisor to President Trump, there is further potential for shifts in NASA's Strategic Plan with future missions and corporate partnerships.

On April 10, 2025, NASA and Congress passed the NASA Reauthorization Act. This bill is designed to refocus the agency on their commitment to space exploration with an emphasis on international and commercial partnerships.

Appendix: NASA Overview II

- Government Research
  - Employee Cuts
    - https://abc7news.com/post/national-institutes-health-president-trump-cutting-4-billion-critical-medical-research-funding-bay-area-impact/15880230/
    - 4 billion in medical research funding
    - "Indirect cost payments" meaning that things are being limited for researchers within universities and this pays for things such as labs and techs
    - Impacts people that are in clinical trials for things such as cancer (less testing and checkups)
  - NASA workforce
    - NASA is funded by congress and the committees that are within congress
    - https://www.al.com/news/huntsville/2025/02/trump-administrations-job-cuts-reach-nasa-with-up-to-10-affected.html
    - Within the past couple of years there have been major cuts to the funding of space research and employee pay for the agency
    - 10% of workers have been laid off and roughly 750 of them took the payout that was offered from president trump
    - This was a buyout offered by president trump in hopes to lower the amount of governmental workers
    - Here the employees were offered 8 months pay with the loss of their job
    - There was the risk that if they did not take the buyout then they could also be laid off without the 8 month compensation.
    - Some say that this is a pressure tactic and not an actual offer
- Budget Breakdown
  - Human Spaceflight 44.9%, Aeronautics 3.5% , Science 31.5%, Education 0.5% , Facilities and Overhead 14.7% , Technology 4.9%
  - President's Budget Request
    - It is NASA's way of getting governmental funding from congress
    - This approach occurs every year in february
    - They are a year long negotiations (first NASA then the White house)
    - Funding the legislation that is seen by the US congress
    - Then all branches of the government are able to look at the request and decide
    - Legislation must be signed by the president and past by the beginning of the fiscal year (October 1)
      - If not then there is not money spending
    - NASA is only taking 0.3% of the governmental funding
  - Where the money goes
    - 17,000 employees
    - Major contractors
      - Boeing
      - Lockheed-Martin
      - SpaceX
      - Orbital Sciences

Appendix: ServiceNow Overview

Origin of NASA X ServiceNow

In 2015, ServiceNow was selected to assist NASA in transitioning its shared services to the cloud, aiming to enhance service delivery across the agency. This collaboration is part of NASA's broader initiative to modernize its IT infrastructure and improve operational efficiency. The partnership leverages ServiceNow's expertise in cloud-based solutions to streamline processes and support NASA's mission-critical operations.

Government Transformation Suite

ServiceNow's Government Transformation Suite offers cloud deployment options tailored to meet government-grade compliance standards. The suite includes advanced agent chat with smart routing and incident management, as well as data-driven intelligence and machine learning capabilities. These features aim to modernize operations, identify bottlenecks, and streamline compliance with government regulations, thereby enhancing efficiency and service delivery in the public sector. https://www.servicenow.com/company/media/press-room/government-federal-suite.html
https://www.servicenow.com/products/government-transformation.html#features

Serco, a global provider of professional, technology, engineering, and management services, has leveraged ServiceNow's platform to transform its operations, enhance efficiency, and empower employees. By implementing ServiceNow Impact, Serco accelerated its adoption of the platform, utilizing three Impact Accelerators to access necessary expertise promptly. This strategic move enabled Serco to modernize business processes across multiple corporate functions, deliver services with increased speed and accuracy, and foster a culture of innovation through Citizen Development. Within a year, Serco expanded its ServiceNow community of practice and achieved significant application delivery efficiencies. https://www.servicenow.com/customers/serco.html

ServiceNow & DoD

The U.S. Department of Defense (DoD) Enterprise Software Initiative (ESI) is a program sponsored by the DoD Chief Information Officer (CIO) that focuses on establishing and managing enterprise Commercial Off-The-Shelf (COTS) IT agreements, streamlining the acquisition process, and reducing costs. ServiceNow has been recognized as an approved vendor under the DoD ESI, enabling DoD agencies to procure ServiceNow's cloud-based solutions more efficiently. This inclusion facilitates the DoD's efforts to modernize its IT infrastructure by providing access to ServiceNow's platform, which is designed to enhance service management, IT operations, and cybersecurity. To meet the stringent security requirements of federal agencies, ServiceNow has obtained FedRAMP certification, ensuring that its platform adheres to the necessary security standards for cloud services. Additionally, ServiceNow has achieved a U.S. Department of Defense Impact Level 5 (IL5) Provisional Authorization, allowing it to handle controlled unclassified information and national security systems information. Through its participation in the DoD ESI and commitment to maintaining high security standards, ServiceNow supports the DoD's mission to modernize its IT infrastructure, improve operational efficiency, and enhance service delivery across various defense agencies. https://www.servicenow.com/blogs/2020/enterprise-software-initiative-us-dod

Appendix: Marshall Space Flight Center

MSFC History

MSFC has played a pivotal role in developing propulsion systems and launch vehicles for NASA. Throughout their tenure they developed the Saturn rockets, the space shuttle program, and the International Space Station. MSFC is currently working on the Space Launch System which is designed for the capability to send rockets into deep space. They are also working on developing the Chandra observatory. Additionally, this center plays a pivotal role in their space exploration, mission-critical design, space launch systems, and other support aspects for the Artemis program.

MSFC has state-of-the-art population testing, research labs, and manufacturing centers on 1,800 acres of land. They are home to 7,000 employees who work here, and they have an annual budget of 5 billion in their 65th year of operating.

ServiceNow Current Usage

ServiceNow is currently being used by MSFC in the Payload Operations and Integration Center. They are using their products to help manage tests, operational issues and anomalies, and to help resolve technical issues more efficiently.
https://ntrs.nasa.gov/api/citations/20160005668/downloads/20160005668.pdf

POIC

The POIC is the operational driver for the MSFC and for the ISS. The POIC is NASA's primary space station science command post that coordinates all U.S. scientific and commercial experiments on the international space station, as well as servers as the direct communication and data transformation between other space agencies that work on the ISS. The POIC is also charged with managing ISS payload resources.
https://www.nasa.gov/wp-content/uploads/2014/10/629113main_629113main_poc_fact_sheet_508.pdf?utm

Appendix: Armstrong Flight Research Center

AFRC History
- They are located in Edwards, California and founded in 1946 (Western Mojave desert)
- This is the primary research center with high-risk, atmospheric flight research
- Have 301,000 acres for said flight research
- What they specialize in
  - With being stationed in the desert they are able to have flying conditions all year round.
  - They are able to test all of the technologies and specialize in the communication for military aircraft
  - Looking to revolutionize aviation and be the leader in aeronautics
  - Aeronautic projects
- Main goal: decrease aircraft noise and fuel consumption
  - Collecting data that would help support supersonic flight to become possible over land
  - Reducing travel time from the US to anywhere else in the world
  - Improving commercial air travel by lowering energy and environmentally (do this by using tools that will test propulsion technologies in/on aircrafts)
  - Improving service for aviation in places that are being underserved to both people and cargo
- Space projects
  - Airborne Science Program
  - Atmospheric effects from wildland and agricultural fires
  - Geographical studies where researchers are gathering samples from consistent zones to show the changes
  - Improving snowfall sensing along with the predictability that comes with it.
  - partnership with the Johnson Space Center and Lockheed Martin, for the Orion Multi-Purpose Crew Vehicle, a spacecraft built to take humans farther than they've ever gone before.

ServiceNow Current Usage
- Operations management-https://www.servicenow.com/products/it-operations-management.html
- Security operations- https://www.servicenow.com/products/security-operations.html

Appendix: Ames Research Center

ARC History
Ames was founded December 20, 1939. Located in Moffett Field, California (in the heart of the Silicon Valley. They currently employee 3200+ employees. Ames is home to unique facilities and capabilities, including the world's largest wind tunnel, NASA's fastest supercomputers, NASA's only arc jet facility for re-entry testing, and the world's largest motion-based flight simulator. Generations of flight vehicles have passed through the Unitary Plan Wind Tunnel for essential testing, from commercial and military aircraft to NASA rockets and craft from every crewed spaceflight program, including Orion.

Project: VIPER (Lunar Rover)

- Mission Control: Mission Operations Center (MOC)
- MOC is located at AMES, with support from Houston and Florida sites
- Mission will run 24/7
- The mission has a new mobile phone app providing data access wherever team members are located
- MOC consists of the drive team (driver and co-driver who analyze position and path) and science team (decisions when the rover is collecting data)
- Engineering Team for rover and systems: SOFTWARE: Ames, HARDWARE: Rover Operations Support Center based at Johnson Space Center (Texas)
- Instrument team operates our rooms at AMES and Kennedy Space Center in Florida. They analyze data and images the rover sends back, and the team informs how science and exploration activities shall proceed.
- https://science.nasa.gov/mission/viper/lunar-operations/#:~:text=VIPER's%20Mission%20Control:%20The%20Mission,data%20access%20wherever%20they%20are.

Potential Solutions:
Solutions:

1. Create a central database for employees to access outside of a phone app (more info/detailed)
2. Central database for Software and Hardware aspects of the VIPER project - communication channel - workflow
3. Potential for AI to analyze data and images automatically, eliminating the process/time needed to do so by individuals
4. Location for teams to load their data and images to be accessed by both AMES and Kennedy

Appendix: AI Research

Detail our research we conducted on this topic.
We did original research on AI in general
- Error detection in security systems
  - https://arxiv.org/pdf/2502.13256
  - Cyber-physical systems CPS does both accuracy and efficiency
  - Internet of things does more on the side of linked together to share data collectively
  - Industrial control systems look at manufacturing, power generation and water treatment
  - Anomalies are deviations of normal operations that may indicate security threats, system malfunctions or threats
  - Overview what the document talks about:
  - Machine Learning
  - Deep Learning
  - Mathematical Model
  - Invariant
  - Hybrid
- AI Machine learning in regards to security (video surveillance)
  - https://www.mdpi.com/2079-9292/12/1/29
  - Anomaly detection is very hard to pinpoint because of the pattern recognition that has to occur so that there is a change in outcome
  - Convolution neural network and recurrent neural networks allow the deep learning aspect to detect better image classifications, object detection, and speech processing through the video feed
  - This article looks at different detection approaches that should allow for AI to detect threats. These were the treats that were tested with the list of detection approaches
    - Number of frames used for the detection
    - Number of anomalies in the scene
- Predictive security analytics
  - https://ephijse.com/index.php/SE/article/view/212
  - This article looks at dynamic threat detection and prediction
  - Behavioral analysis and anomaly detection
  - Automated response

Appendix: AI Research II

- Cybersecurity integration
  - Found in this article that AI can be used in the purpose of cybersecurity and can be seen having many benefits
  - Routine security task has been seen to be boosted with the use of AI
  - Will have to learn to think like cyber criminals because of the way that they are also able to use AI to gain valuable information
  - There are also ethical and privacy concern in the sense of data collection, storage and analysis (we need to find a way to create trust)

AI Seen Within ServiceNow

- Known for creating human language texts, pictures, and other information that can be provided via information containing patterns
  - Customer experience:
    - Self-service and chatbots that allow companies to ask simple questions
    - For companies they can use the club-based foundation that allows others to infuse GenAI techniques
  - Employee productivity
    - Reduces manual work (emails, responses)
    - Case summaries and intelligence code
  - Issue Resolution
    - GenAI can be used to arm for customer service and IT
    - Summarization for chat, incidents, and recommended solutions

ServiceNow Gen AI

"A type of artificial intelligence, Gen AI instantly creates human-language text, images, and other new content based on learning patterns in existing data. GenAI supports human interactions in context, getting and providing help, resolving issues, and offloading routine tasks." (ServiceNow)

Appendix: Recommendations

Research From ServiceNow for Recommendations for Flight Centers

- Collaborative Tools
  - Definition: here there is a need in the mission center to increase communication to other participating mission centers that research aeronautics

Those being the mission centers listed above

BUT with the knowledge that we have the mission center Ames and AFRC has an influence/they work together in research then we could use ServiceNow to be able to communicate between mission centers

- Ways ServiceNow can help
  - Workflow data fabric: would allow the use of work flows and the AI present to communicate in a general space to be able to communicate mission center to mission center
    - Seen on page 9-34 of slides first call deck
  - Triage Cases: allows employees to have more time by freeing up time by being able to assess the data that is already acquired by can be summarized for the employee to the move on to the next task
- Interagency Collaboration
  - Definition: working with the other research centers through research and to be able to establish a similar protocol for communication so sharing research and findings is not as complicated
  - Ways servicenow can help
    - AI workflows: can be used for the ability to generalize and summarize the information that is being sent from mission center to mission center when it comes to questions. With this it allows NASA agents to free up time reading lengthy emails and answer questions faster and allow more time to the research.
      - Page 10-34 of slides for clients first call deck
    - DF (Configuration Itemized Simulation): used as a text summary highlighting key detail that could be used for emails from other mission centers with the option to read further into the email
      - Page 27-34 of slide for clients first call deck
- Data Transfer
  - Definition: from the research that is occurring from the planes and drones and the ground and gaining that data through recording it to then be able to share with other mission centers.
  - Ways ServiceNow can help
    - SecOps (Close Security Incident): by being able to automate workflows to close security incidents by auto-generating close codes, results and post incident analysis. Can allow more time for questions to be asked and answered along with keeping NASA data secured
      - Page 27 of 34 slides for clients first call deck

Data protection: maintain full control of NASA data and have the ability to know when, where, and how the data is being accessed. (this could be hard with how many NASA employees there truly are)

Appendix: Explored Recommendation for MSFC

Initial Concept:

We initially proposed NASA leverage ServiceNow to centralize the POIC operations for the International Space Station. The goal was to create a centralized cloud based system where all members of the ISS would be able to access and collaborate more efficiently through:

- centralized ISS data
- Standardized workflows and procedures for the ISS and its support staff
- Allow for real time collaboration with the ISS ad other space agencies around the world

Rationale:

Due to the international scope of the ISS, the centralized cloud based system was positioned to reduce operational silos between mission system teams and space agencies. By having one singular streamlined platform; We believed this would improve coordination of payloads, reduce errors via lack of communication and classified information. Resulting in a safer, more efficient ISS.

Why It Was Reconsidered:

After interviewing with Jonathan Reaves at NASA we learned NASA was extremely strict on their data security and protection. The likelihood NASA would allow classified or highly sensitive mission critical information and data to leave the NASA footprint was close to 0. Shifting to an indicative like such would require extensive buy-in from NASA executives and stakeholders. Additionally, we learned NASA is quite conservative in organizational change which also helped us to believe this initiative would be a large barrier to overcome.

Future Considerations:

As NASA and other Private space companies engage in future multinational missions, (Artemis, Lunar Gateway, SpaceX, etc.), the concept of a centralized mission system platform could be feasible with earley uy in, for these upcoming missions.