

# LOGAN A. DRDA

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## OBJECTIVE

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Computer Science graduate with a strong mechanical engineering background built through 5+ years in the space and defense industry. Skilled in programming, machine learning, and software development. Seeking to leverage these skills to create innovative solutions in tech-driven environments.

## EDUCATION

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- **Computer Science, BS** 2021 - 2024  
*Western Governors University*
- **Mechanical Engineering, BSE** 2013 - 2017  
*Arizona State University*

## NOTABLE PROJECTS

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- **Diabetes Risk Predictor: a machine learning tool assessing diabetes risk based on health data** 🔄  
*Python, Machine Learning, Logistic Regression*
  - Implemented a supervised machine learning model using logistic regression in Python to predict diabetes risk.
  - Preprocessed and cleaned data using pandas, ensuring high-quality input for model training.
  - Applied L2 regularization to enhance model generalization and prevent overfitting.
  - Performed a training/testing split for validation of model performance.
- **Reservation System Backend Extensions: integrated multithreading & RESTful APIs in Spring Boot backend** 🔄  
*Java, Spring Boot, Angular, Multithreading, RESTful APIs*
  - Enhanced the prebuilt reservation system by integrating multithreading to process welcome-message tasks asynchronously, improving application responsiveness.
  - Developed custom RESTful APIs in Spring Boot for communication between the Angular front-end and back-end, including endpoints for dynamic content like welcome messages and meeting invitations.
  - Implemented timezone conversions for meeting invitations and dynamic currency support to improve the user experience and provide global compatibility.
- **Autonomous Search & Rescue Robot Simulation: a robotic system navigating to locate & interact with a target** 🔄  
*Lua, Robotics, Simulation, CoppeliaSim, AI, Pathfinding*
  - Designed and simulated an autonomous robot to perform search-and-rescue tasks in a virtual environment.
  - Programmed obstacle detection and avoidance algorithms in Lua for reactive navigation based on real-time proximity sensor data.
  - Simulated environments to evaluate and optimize the robot's autonomous behaviors and reliability.
- **Tempus Invictus: a solo-developed 2D strategic platformer/speedrunner with a genre-breaking twist** 🔄  
*Godot, GDScript, Game Development*
  - Built a working video game from scratch, including the conceptualization of core gameplay mechanics, character design, level design, scripting, user testing, and debugging.

## PROFESSIONAL EXPERIENCE

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- **Northrop Grumman** 2016 - 2021  
*Mechanical Engineer, Research and Development* Chandler, AZ
  - Led a multidisciplinary team in the development of novel composite secondary structures for flight vehicles, managing all phases from initial concept to final production.
  - Designed and optimized 3D-printed production tooling, CAD models, engineering drawings, bills of materials (BOMs), and inspection plans, ensuring adherence to aerospace standards.
  - Oversaw the complete product lifecycle, including conceptual design, design of experiments (DOE), production support, supplier issue resolution, qualification testing, and post-qualification maintenance.
  - Designed a customized dolly system for the safe transport of program rockets, serving as the responsible engineer within the Design, Integration, and Test group.

## TECHNICAL SKILLS

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- **Programming Languages:** Java (Spring Boot), Python, C++ (Object-Oriented Programming), SQL
- **Web Development:** HTML5, CSS3, JavaScript (ES6+), Angular (TypeScript)
- **Data Analysis & Machine Learning:** NumPy, pandas, scikit-learn, Data Preprocessing
- **Database & APIs:** MySQL, PostgreSQL, REST APIs
- **Development Tools:** IntelliJ, PyCharm, Visual Studio, VS Code, Git (GitHub)
- **Game Development:** Godot & GDScript
- **Engineering Software:** Siemens NX & Teamcenter, SolidWorks, Ansys