Rodolfo González Parra (Rudy)

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EDUCATION

Central New Mexico Community College- Albuquerque, NM

Associate of **Computer Information Systems** concentration in Network Administration **Granted December 2023**

3.5 GPA

Relevant Courses: Introduction to Competitive Robotics, IT Essentials Hardware, IT Essentials Software, Network Topology/Cisco Academy I, Internet of Things (IOT), Technical Communications, Linux Essentials, NET RTG & SW/Cisco Academy SEM II, ENT NET & Auto/CIS Acad SEM III, Fundamentals Network Security, Survey/Engineering Fields, AutoCAD, Python, C++ Programming, Network Essentials, Chemistry, Semiconductor apprentice

Math Level: College Algebra, Trigonometry, Pre-Calculus, Calculus I

Certificates:

CCNAv7: Introduction to Networks	Granted April 2022
Certificate of General Studies	Granted May 2022
Associate of Applied Science in Integrated Studies	Granted May 2022
CCNA: Switching, Routing, and Wireless Essentials	Granted August 2022

Portfolio Links:

LinkedIn Hackster.io GitHub

SKILLS

Mechatronics & IOT Skills:

- Rapid prototyping (3D printing, laser cutting, CNC machining)
- Sensor integration (current, voltage, temperature, GPS, BLE/Wi-Fi connectivity)
- Embedded systems programming (C++, Arduino IDE, Particle Photon/ESP32)
- Control systems (pump automation, relay switching, PID loops)
- PCB design and circuit fabrication
- Robotics engineering and electromechanical troubleshooting
- Low-power design and energy optimization for IoT devices

Software Development Skills:

- -C++, Python, MATLAB, Linux systems programming
- Firmware development for microcontrollers (Particle, Arduino, ESP32)
- AI/ML implementation for anomaly detection and predictive maintenance
- Mobile application feature research (remote monitoring & control)
- Data analytics, visualization, and dashboard creation
- Networking: TCP/IP, IPv4/IPv6, Cisco-certified routing/switching
- Version control and collaboration (GitHub, Git, DevOps practices)

Production & Lab Operations Skills:

- Lab setup, equipment calibration, and maintenance
- Process optimization for R&D and manufacturing
- Production line supervision and workflow efficiency
- Inventory management of hazardous materials and lab supplies
- Training and onboarding for students, interns, and technicians
- Collaboration with mechanical/electrical/software engineers
- Troubleshooting production bottlenecks and scaling prototypes

Battery Research & Manufacturing Skills:

- Lithium-sulfur flow battery R&D and prototyping
- Peristaltic pump system design for electrolyte circulation
- Safety protocol management for argon, nitrogen, **lithium handling**.
- Electrical assembly (MOSFETs, SSRs, BMS systems)
- Glovebox and VAC operations for sensitive material handling
- Charge/discharge cycling, thermal testing, and diagnostics
- Lab automation energy storage.

Scientist/ Researcher Core Skills:

- Laboratory safety & compliance (BABA, DBRA, OSHA practices)
- Spectroscopy, calorimetry, and analytical and optimization
- Data acquisition, statistical, presentations, and grant writing
- Cross-functional teamwork and interdisciplinary research

RELEVANT WORK EXPERIENCE

Lead Mechatronics & Lab Technician **September, 2024 – Present**
GridFlow - Albuquerque, NM

- Spearhead R&D lab operations at a clean energy startup developing the world's first **lithium-sulfur hybrid flow battery**.
- Build and test prototypes for battery systems and IoT devices, including automation tools, peristaltic pump systems, and custom safety monitoring solutions.
- Manage sensor integration, BLE/Wi-Fi connectivity, and microcontroller firmware (Photon, ESP32) for lab automation and data collection.
- Oversee safety protocols for hazardous materials (e.g., argon, nitrogen, lithium), VAC systems, and glove box procedures.
- Collaborate with cross-functional teams to execute testing, troubleshoot hardware/software issues, and improve product designs.
- Support rapid prototyping, electrical assembly, and real-time diagnostics using C++, Arduino IDE, and hardware debugging tools.

IOT and Software Developer **April 2024 – September 2024**
Telemetry Insight - Albuquerque, NM

- Developed and maintained the Well Watcher Code, essential for monitoring well controllers and telemetry systems in real time.
- Managed and optimized energy consumption and anomaly detection algorithms for well controllers to improve operational efficiency.
- Conducted research and implemented mobile application features for remote monitoring and management of industrial equipment.
- Developed AI-driven anomaly detection and real-time equipment health monitoring systems, enhancing predictive maintenance capabilities.
- Tested and implemented various functions related to BLE (Bluetooth Low Energy) technology, including monitoring Tx Power settings to evaluate battery life and power consumption impact.
- Led software testing for new features, ensuring reliability and efficiency of well controllers.
- Analyzed and reviewed daily telemetry reports on WC timers to identify potential issues, such as frequent resets and anomalies in uptime.
- Collaborated with the engineering team to review and enhance the company's digital solutions, providing technical insights and recommendations.
- Provided frequent updates to support teams through Slack and email channels to ensure smooth operations and quick troubleshooting.

RELEVANT ACADEMIC EXPERIENCE

Deep Dive IoT Bootcamp Program **October 2023 – December 2023**
CNM Ingenuity STEMulus Center

- Cumulative 400+ hours of software and hardware curriculum, rapid prototyping.
- Expertise developed in coding smart devices in C++.
- Deep understanding of electronic circuits, soldering, and complex software's.
- Access to state-of-the-art fabrication equipment, along with complex instrumental fabrication machinery.
- Comprehensive training encompasses factory and laboratory automations.
- Acquired skill sets for semiconductors and clean room operations.

Glass Physics Researcher/ Lead Researcher and Team Leader **May 2023-August 2023**
University of Coe College- Cedar Rapids, Iowa

- Led a team of researchers in completing four extensive complex projects under Dr. Steve Feller's supervision.
- Implemented new laboratory procedures across all departments increasing production & stoichiometric accuracy.
- Conducted in-depth examinations and production of innovative glass compositions using various compounds.
- Assessed diverse glass properties, including density and conductivity.
- Operated advanced laboratory instruments, including furnaces and spectrometers.
- Utilized spreadsheet applications for data analysis and recording.
- Maintained meticulous research records.
- Contributed to research papers, presentations & publishing.
- Presented research findings at the Iowa Glass Conference.

Image Creation Developer Operations Team **January 2023-May 2023**
Lockheed Martin- Remote

- Assisted with crucial responsibilities related to image management for both Cloud and On-prem environments.
- OS Image Development: actively participated in the development and troubleshooting of Windows and Linux OS images, gaining hands-on experience in image creation and fine-tuning.
- Participated in Configuration Discussions surrounding purpose-built OS configurations
- Acquired technical proficiency and solid understanding of scripting, TCP/IP networks, and virtualization environments, applying this knowledge to my tasks effectively.

Solar and Space Physics Researcher at the University of Boulder Colorado May 2020-August 2020

- Conducted in-depth analysis of Hα line properties in sun-as-a-star observations to investigate temporal variations.
- Explored magnetic photospheric and chromospheric features on the Hα core-to-wing ratio at the 27-day rotational time-scale.
- Identified that sunspot area predominantly influenced Hα line shape, while faculae and filaments had minimal impact. These findings contribute to our understanding of chromospheric variability in solar-like stars.

RELEVANT ORGANIZATIONS

Board Member of New Mexico Tech Talks **May 2025 – Present**

- Contribute to strategic planning and direction as a board member for New Mexico Tech talks (NMTT).
- Support execution of public events and inclusion programming that amplifies New Mexico Tech ecosystem.
- Collaborate with partner organizations like Taqueria and rubber, ducks New Mexico to promote cross sector initiatives.
- Lead community engagement efforts focus on elevating underrepresented voices in STEM.
- Foster partnerships and innovation by organizing accessible, community driven tech events stay wide.

Chapter Director of Techqueria NM (National Organization) **February 2025 – Present**

- Lead chapter strategy and operations for Techqueria New Mexico, serving Latinx professional in tech.
- Organize local events and programming focused on networking, career growth, and tech education.
- Build and manage partnerships with local organizations, companies, and community leaders.
- Drive member engagement and community outreach to expand Techqueria's impact statewide.
- Support professional development, initiatives, and foster and inclusive empowering space for Latinx talent.

STEM Core Program **July 2022 – December 2023**

- Participated in a national program focused on advancing stem skills through accelerated coursework and paid internships.
- Collaborated within cohort-based learning communities to enhance proficiency in mathematics, technology, and engineering.
- Received academic support and career guidance, preparing for high-demand roles in technology fields.
- Gained hands-on experience with industry leaders such as Nasa and Lockheed Martin, directly connecting with stem employers for career readiness.

ALRISE Program **January 2022 – 2023**

- Participated in a national initiative aimed at increasing Latinx representation in stem through culturally responsive strategies and experiential learning.
- Collaborated with Hispanic serving institutions (hsis) to enhance student retention and completion rates in stem fields.
- Engaged in curriculum development, educator training, and capacity building to foster inclusive environments for Latinx students in stem.
- Contributed to broadening participation by helping to close gaps in Latinx student success and stem career pathways.

REFERENCES

Available upon request.