Basil Aranda

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thymetravel.github.io/

EDUCATION

California State Polytechnic University, Pomona—
B.S. Aerospace Engineering; Astronomy Minor

August 2020 - Present

- Expected Graduation May 2023
- 3.74 GPA
    - American Institute of Aeronautics and Astronautics
    - American Society of Mechanical Engineers
    - Institution of Mechanical Engineers
    - American Mathematical Society

EXPERIENCE

NASA Armstrong Flight Research Center RVLT
— Intern

January 2022 - Present (20 Hours Per Week)

- Revolutionary Vertical Lift Technology is the future of personal travel free of congested roadways.
- Modeled flight controllers and high power motors using control system fundamentals and novel research
- Worked with and designed PWM based motors with variable disturbances; model will be used between NASA centers
- Facilitated Intra-center communication between interns

CubeSat Technology Exploration Project, CPP & NASA JPL
— Electrical Team

February 2021 - Present (5 Hours Per Week)

- Designed and integrated electrical systems to test novel technologies
- Coalesced separate proprietary COTS platforms for successful incorporation
- Created Data Acquisition Systems to interface with commonly available microprocessors and microcontrollers
- Lead on circuit analysis and electromechanical integration

NASA Stennis Office of STEM Engagement
— Intern

August 2021 - December 2021 (20 Hours Per Week)

- Designed on-site experience for future NASA NCAS Scholars
- Project will be adopted at other NASA Centers for their specific NCAS programs. Project is modular and accounts for Center focus
- Created and designed a portable weather station with common microcontrollers and sensors

SKILLS

Systems Engineering
Willingness to Learn
Avionics Experience
Rocket Propulsion Experience
Adept with C++, Python.
Electrical wiring, soldering, and analysis expertise
Public Speaking
Solidworks
Autodesk Suite
Proficient in Excel
Adaptable & Team-focused

AWARDS

Associates Degrees in Engineering, Mathematics, Physics, and Art

Magna Cum Laude, Santa Clarita Community College District

California Space Grant Consortium

NASA NCAS Winner
SCCCD Resolution
MESA Director's Award
US Presidential Volunteer Award

LANGUAGES

C++
Python
Java
MATLAB
SolidWorks
AutoCad
Arduino IDE

Intermediate Spanish
Intermediate Filipino

NASA RockSat-X, Santa Clarita— *Electrical Lead*

November 2018 - December 2019 (5 Hours Per Week)

- Launched a cubesat to apogee to test feasibility of auto-rotation for reentry
- Self-taught PCB design, COTS integration, and electrical analysis
- Presented project at Caltech's Infrared Processing and Analysis Center

Santa Clarita Community College District Student Trustee, Santa Clarita

June 2019 - June 2020 (20 Hours Per Week)

- Elected to represent 30,000 students as the sole student representative on the SCCCD Board of Trustees
- Introduced sweeping legislation towards environmental sustainability
- Orchestrated & led student marches and demonstrations for justice, accountability, and progress

Mathematics Engineering Science Achievement, Santa Clarita — *Math, Physics, Engineering Tutor*

January 2019 - August 2020 (10 Hours Per Week)

- Instructed Engineering, Calculus, and Mathematics to STEM students requiring extra guidance
- Mastered the academic theory behind these subjects
- Gained invaluable interpersonal experience

College of the Canyons Information Technology, Santa Clarita — *Student Employee*

April 2019 - June 2019 (25 Hours Per Week)

- Created Javascript and HTML Code to provide Americans with Disabilities Act compliance to College of the Canyons main website
- Transferred and converted documentation
- Adhered to strict ADA requirements

REFERENCES

Professional

- Stacy Schmidt, NASA NCAS Coordinator Southeast Region
  - stacy.schmidt@nasa.gov
- Peter M. Suh, NASA Armstrong Control Systems Engineer
  - peter.m.suh@nasa.gov
- Kelly McCarthy, NASA Education Program Specialist
  - kelly.mccarthy@nasa.gov

Educational

- David Martinez, College of the Canyons Engineering Department Chair
  - david.martinez@canyons.edu
- Navid Nakhjiri, Cal Poly Pomona Aerospace Engineering Professor
  - nnakhjiri@cpp.edu

CURRICULUM VITAE

Avionics
Structures
Simulation Modeling
Low Speed Fluid Dynamics
High Speed Fluid Dynamics
Thermodynamics
Wind Tunnel Testing
Control Systems
Orbital Mechanics
Vibrations
Astronautics
Ethical Engineering

Special Relativity
Quantum Physics
Observational Astronomy
Electrodynamics
Electromagnetism
Kinematics
Wave, Heat, and Optics

QUALIFICATIONS

High level grasp of engineering concepts specifically in Avionics and Control Systems

Experienced with professional lab settings, research, and grant proposal writing

Strong and consistent academic performance

SELECTED PROJECTS

Computational Fluid Dynamics

Stochastic Computational Math Research

High Gain Directional RF Remote Transmitter

Algorithm-Beating Maze Generator