Nicholas Godshall

nickgodshall.com

nsgodshall@gmail.com

213.444.6547

SUMMARY

Multidisciplinary engineer with a background in backend development, AI systems, and model-based systems engineering. I've led development efforts on LLM-powered tools like MAPPy, integrating Retrieval-Augmented Generation (RAG) pipelines and deploying to government environments like NASA's AWS GovCloud.

WORK EXPERIENCE

- **Booz Allen Hamilton** — El Segundo, CA
  Staff Systems Engineer — *August 2022–Present*

  - **Lead Software Developer**: Served as Lead Backend Developer for MAPPy, an LLM+RAG AI platform for generating and assessing Systems Engineering content. Contributed to the Next.js frontend and Cameo Systems Modeler plugin. Led successful deployment to NASA's AWS GovCloud environment.
    - **Technical Leadership & Backend Development**: Architected and implemented an ASGI application managing LLM interfacing and Retrieval-Augmented Generation (RAG) pipelines.
    - **Cloud Infrastructure & Systems Integration**: Spearheaded deployment to AWS GovCloud with secure Docker configs and STIG-compliant documentation.
    - **Client Engagement & Use Case Development**: Met with stakeholders at NASA Johnson Space Center and NSWC Crane to present MAPPy capabilities, gather feedback, and explore integration opportunities for AI-assisted systems engineering workflows.
  - **Mars Sample Receiving Project**: Member of the Systems Engineering team developing the project MBSE model and supporting Mission Concept Review (MCR) deliverables.
    - **AoA Framework**: Built a full-stack, data-driven Analysis of Alternatives framework using Python and Flask.

- **Jet Propulsion Laboratory (JPL)** — Pasadena, CA
  Research Intern – Planetary Sciences Division — *September 2019 – January 2020*

  - **PDS Publication Support**: Collaborated with the PDS Atmospheres Node maintainers to prepare observational datasets of Jupiter for public release. Ensured metadata and formatting compliance with PDS standards.
  - **Data Processing and Annotation**: Processed and tagged both ground-based and spacecraft observational data. Developed scripts to organize, standardize, and annotate imagery.

SKILLS & CERTIFICATIONS

- **Languages**: Python, Java, C++, MATLAB, Bash, JavaScript
- **Frameworks & Libraries**: Flask, LangChain, LlamaIndex, React, NumPy, Pandas, CircuitPython, Arduino
- **Tools & Platforms**: Docker, Linux, Ollama, MagicDraw (Cameo), STK, ODTK, Ansys ModelCenter, Git, LaTeX
- **Hardware & Electronics**: ESP-32, soldering, breadboarding, microcontroller programming, Eagle CAD
- **Project Dynamics**: Skilled in requirements analysis, risk assessment, Agile workflow, stakeholder presentations, and technical documentation

EDUCATION

- **University of California, Los Angeles** — Los Angeles, CA
  B.S. in Mechanical Engineering, Summa Cum Laude, GPA: 3.91 — *June 2022*

  - **Relevant Coursework**: Space Systems Engineering, Orbital Mechanics, Thermodynamics, C++ Data Structures, Materials Science, Dynamic System Controls
  - **Activities**: Nanoscale Transport Research Group (NTRG), American Society of Mechanical Engineers (ASME)

PERSONAL PROJECTS

- **USB Nugget Educational Cyber Security Platform**: Contributor to the open-source USB Nugget project. Embedded development with CircuitPython and Arduino; 3D-modeled case design and supported device manufacturing.
- **In Search of the Most Exciting Baseball Game**: Created a custom metric to quantify MLB game excitement. Scraped game logs from baseball-reference.com and evaluated all 2,430 games from the 2023 season using Python.
- **Digitally Igniting Fireworks**: Designed a remote fireworks ignition system using NiChrome wire and a custom mortar tube, triggered over Wi-Fi with an ESP-32 microcontroller.