

Joel Samuel Rhine

500, 23rd St NW. Washington, DC. 20037

202-568-2029 • joelrhine7@gmail.com • [linkedin.com/in/joel-rhine](https://www.linkedin.com/in/joel-rhine) • github.com/rhinejoel • www.joelrhine.tech

A highly skilled cross-functional engineer seeking opportunities as a Technical Project Manager, boasting a track record of success in challenging international environments, adeptly managing risks, and consistently surpassing project deliverables.

Education:

- **George Washington University**, Washington, DC. May 2019. (GPA 3.52) M.S. in Mechanical and Aerospace Engineering
 - On-Campus Job: Graduate Student AV Assistant, GW Law Media Center
- **Don Bosco Institute of Technology, University of Mumbai**, Mumbai, India. April 2016. B.S. in Mechanical Engineering

Technical and Language Skills:

- **Tools:** Solidworks, Ansys, Makerbot 3D, MS Office Suite **Spatial Analysis Tools:** ArcGIS (Pro, Online) QGIS, Mapbox, Google Earth Engine
- **Programming:** Python (ArcPy, PyQGIS, PyQt5, Scikit, Pandas, Geopandas, OSMNX), HTML, CSS (Tailwind), JavaScript (ThreeJS, React) **Envs:** Conda
- **Skills:** Analytical, Collaborative, Problem-Solving, Effective Communicator, Organized, Prioritization, Risk Management
- **Languages:** English (fluent), Hindi (fluent) **Certifications:** Working towards PMP, Part 107 Remote Pilot (Drone Pilot)

Work Experience:

The World Bank, Washington, DC

Remote Sensing and GIS Consultant

May 2024 – Present

Geospatial Data Analysis

1. Leveraged publicly available data to analyze Mali access to health facilities, schools and markets. 2. Reviewed paper prepared by the Sahel team on multi-variate clustering for land subsistence zones; proposed improvements and deliverable timeline. 3. Prepared data-fetch and preparation pipeline for Sahel Project Targeting Index. Applied successfully towards Burkina Faso and Guinea-Bissau.

[Skills: ArcGIS, QGIS, Python, Technical Writing, Problem Solving]

Development Monitors LLC, Arlington, VA

Project Manager

Jun 2019 – Apr 2024

Software Development

1. Led development of open-source asset management system as part of World Bank India Project. Designed organized and scalable database from scratch. Integrated mobile data collection – database storage – data visualization and interaction. 2. Drone Inventory and Flight Path Generation [QGIS Plugin], 3. Disaster Risk Based Decision Support System [QGIS Plugin] Setup and trained World Bank Open Cities roof detection model to detect Afghanistan roof types. Integrated with natural disaster risk-based decision support system.

[Skills: QGIS, Postgres, KoBoToolbox, Python, Leadership, Communication]

Web Development

Led development of open-source 3D terrain mapping system. Automated fetch of OSM building footprints (osmnx), Satellite imagery (sentinelat) and terrain elevation (USGS) to create a 3D block based on global coordinates

[Skills: HTML, CSS, ThreeJS, Python, Leadership, Communication]

Drone Development

Designed, built and tested fixed-wing and quad-copter drones at the Virginia Tech Unmanned Systems Laboratory and Flight Test Facility. Built and configured RTK and PPK for Drone and Base Station. Measured Ground Control Points for surveys. Processed aerial images to create orthorectified 2D and 3D models

[Skills: SolidWorks, Mission Planner, ODM CLI, GPS-ublox F9P]

GIS/Remote Sensing

Held GIS/Remote Sensing Expert roles on 2 World Bank (QIIP-YEM, CBDRM/EW-AFG) and 1 KfW (EIDA II-AFG) project.

[Skills: QGIS, Data Analysis, Python, Communication, Stakeholder Workshops and Presentations]

Mentoring

Mentored over 35 international software developer, GIS and remote sensing internships from work-plan design to final grade.

[Skills: Mentorship, Communication]

Admin

Responsible for designing development roadmaps with specific deliverables and setting monthly and quarterly goals. Moderated official GitHub, AWS, GoDaddy, Box, MS Teams. Co-authored technical proposals resulting in 4 project awards.

[Skills: Tech Admin, Reliability, Technical Writing]

Other Relevant Work Experience

George Washington University, Washington DC

Junior Thermals and Design Engineer, GW-CubeSat, NASA

Aug 2018 – May 2019

Conducted structural and thermal analysis. 3D-Printed and assembled complete CubeSat prototype

University of Mumbai, Mumbai, India

Team Leader, Hoverbolt 1.0 (Hovercraft)

Jun 2015 – Apr 2016

Self-funded project of ten senior-year mechanical engineers to design, analyze, procure, build and test a pilot driven hovercraft