# Rachit **Jain**

rachit.jain@wustl.edu | +1 (314) 685-6330 | St. Louis, MO | linkedin.com/in/jrachit

## Education

**Washington University in St. Louis, McKelvey Engineering** *St. Louis, MO*

BS in Computer Science, Additional coursework in Computer, Financial and Systems Engineering *Aug 2018 – May 2023*

## Employment and Experience

**Ford Mobility (Team Edison)** *Chennai, India*

Software Engineering Intern *July 2020 – September 2020*

- Developed a serverless OCPP standards compliant smart electric vehicle charging backend web service on AWS lambda
- Migrated and extended Scala backend microservices to comply with new standards running in production
- Architected new serverless microservice system reducing lifecycle costs by 80% and increased throughput by 1000%

**Ford Global Data, Insight, & Analytics** *Chennai, India*

Software and Data Engineering Intern *May 2021 – September 2021*

- Created automated messaging systems for South African marketing campaigns in CRM systems
- Utilized data pipelines to detect and fix production customer data errors
- Automated test data creation for pipelines using Python interfacing with legacy SAP CRM systems to eliminate manual data entry reducing turnaround times from 7 days to 2 minutes
- Trained developer team in using Python to automate manual software development tasks

**Washington University Design/Build/Fly** *St. Louis, MO*

Simulation and Computing Development Lead *March 2020 – Present*

- Led an aircraft simulation, control, and monitoring software development division as part of an international aerospace competition team.
- Developed training program for developers with no coding experience to be able to independently tackle IoT, Embedded, Wireless Communication, AI and autonomous flight, Simulation, and Web Service projects within 6 months
- Grew division from 1 person to 20 people within 2 years to become the largest sub-team
- Handled division organization, task scheduling, and planning using DevOps practices like Git, Agile and CI/CD
- Maintained communication, collaboration, and eliminated bottlenecks with other team divisions
- Automated organization workflows, data collection and analysis to optimize aircraft design and manufacturing

**Washington University Design/Build/Fly** *St. Louis, MO*

Avionics Development Engineer *August 2018 – March 2020*

- Designed and built C++ based aircraft electrical control and diagnostics systems and radio communication systems
- Reverse engineered communications protocols and circuit designs to interface previously incompatible hardware
- Architected plane electronics hardware, onboard computer systems, power electronics circuits, and wireless communication systems
- Designed and developed custom printed circuit board designs to integrate electronics and wiring to eliminate errors and excess wiring weight while increase simplicity, power efficiency, and resilience
- Designed custom power electronics to exploit peak battery efficiency and allow close hardware status monitoring

**Washington University Computer Science and Engineering** *St. Louis, MO*

Teaching Assistant *January 2019 – May 2022*

- Helped teach and assess conceptual understanding of class material for undergraduate computer science students
- Presented and explained class material during weekly lab sessions

**Washington University Design/Build/Fly** *St. Louis, MO*

Lead Simulation Migration Engineer *May 2022 – Present*

- Reverse engineered legacy MATLAB aircraft simulation software in order to maintain and understand existing processes
- Designed and developed new Python based simulation systems library using modern data driven workflows to increase performance, flexibility, ease of use, and maintainability
- Created automated CI/CD, security, static analysis, code formatting, bug/feature tracking, and documentation generation pipelines to eliminate manual work
- Leading a team of 5 developers to build out software feature set

**Personal Enrichment Projects** *Multiple Locations*

ENGINEERING *2014 – Present*

- Utilized cryptocurrency and securities data sourced from publicly available APIs to build an algorithmic trading system using AWS technologies. Currently used to advice investments in the USA..
- Developed and experimented with open source contribution, workflow automation, video encoding, FPGA design, GPU computation, game modification, monte-carlo simulation, web scraping, pollution data management, and machine learning.
- Analyzed publicly available real-estate data to value properties using historical flood, elevation, rainfall, sales, and transport information to value potential property acquisitions

## Languages and Skills

**Language Learning:** Mandarin Chinese (Very good command), Hindi (Native), English (Native)
**Programming Languages:** Python, Java, C++
**Cloud Development:** Amazon Web Services and Microservice architecture, Backend Web Services, Linux software development
**Programming Paradigms:** Parallel Computation, Embedded Computing

## Courses Taken

**Analysis of Algorithms**

**Capital Markets and Investments**

**Computer Architecture**

**Parallel and Concurrent Programming**

**Operating Systems**

**Machine Learning**

**Programming Systems and Languages**

## Certifications And Professional Membership

June 2020 **AWS Certified Cloud Practitioner**, Amazon Web Services
Aug 2018 **American Institute of Aeronautics and Astronautics**, Member
Aug 2022 **American Society of Mechanical Engineers**, Chapter Treasurer
Aug 2018 **Association for Computing Machinery**, Chapter Member
Sept 2018 **University of Pennsylvania PenApps Hackathon**, Hackathon participant