RILEY MAHN

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Software Development & Machine Learning Engineering

Highly skilled software engineer with expertise in automation, CI/CD pipelines, machine learning, and large-scale system integrations. Proven ability to develop efficient and scalable software solutions, leveraging Python, C#, and cloud technologies. Adept at enhancing software reliability through rigorous testing, automation, and infrastructure optimization. Passionate about applying machine learning to solve complex technical challenges.

Knowledge, Skills & Abilities:

Software Development | Computational Modeling
Predictive Analytics | Statistical Analysis | Cloud Technologies | Algorithm Design
Automation Technologies | Data Integration | Machine Learning Optimization
CI/CD Pipelines | DevOps Practices | Software Testing | API Development
Data Processing | System Architecture | Cross-Disciplinary Collaboration | Technical Documentation

Technical Proficiencies:

UI Automation | PyAutoGUI | OpenCV | Bamboo | dotnet | NumPy | Pandas | Matplotlib | Django | PostgreSQL
Machine Learning Algorithms Writing | Docker | SeqPrep | Velveth | Git | Bitbucket | MATLAB | Octave | Jenkins
Working Knowledge of AWS and Azure | Terraform | Ansible | BLAST | Galaxy | Geneous | Perl | Computer Vision
Linux | Windows | Mac | SpecFlow | Gherkin | C# | Python | GitLab | Jira | Visual Studio | Atlassian | Spark | PyMol
Scikit-learn | PyTorch | CI/CD Pipelines | Selenium | Unit Testing | API Testing | Seaborn | Jupyter Notebooks

Professional Work Activities

With a strong foundation in software development and machine learning, capable of performing the following tasks:

- Develop and optimize software solutions, leveraging automation, data processing, and algorithm design.
- Apply knowledge of machine learning to analyze data, experiment with models, and integrate predictive capabilities.
- Collaborate with teams to build scalable, maintainable software using DevOps and cloud technologies.

Professional Experience

BOEING; Denver, CO (Remote) Apr 2022 – Nov 2024

Software Verification/DevOps Engineer

Ensured complete verification of large-scale, high-security projects with 100% accuracy. Designed and deployed an advanced automation platform that continuously executed test cycles. Executed software verification testing on Actuator Control Unit embedded software for military drone aircraft by employing SpecFlow, Gherkin, C#, and Python to validate functionality against required specifications. Developed in-depth technical documentation to capture software development methodologies, test execution strategies, and compliance procedures for regulatory audits.

- Significantly augmented deployment efficiency by automating statistical data analysis, visualization, and test execution through Python scripting. Proficiently utilized Bamboo and Jenkins to create CI/CD pipelines.
- Ensured seamless data transfer, traceability, and regulatory compliance by integrating GitLab and Jira APIs. Implemented Python-based automation for large-scale project migrations.
- Provided project status updates to stakeholders and confirmed that software met all release requirements through efficient execution of Test Readiness Reviews (TRR) and Formal Qualification Testing (FQT).
- Improved test accuracy and streamlined the process of identifying and troubleshooting bugs through creation of an innovative real-time motor position monitoring solution.
- Implemented effective testing procedures to maintain aerospace industry standards for product reliability while ensuring rigorous quality control throughout the software development lifecycle.

AGILENT TECHNOLOGIES; Santa Clara, CA Dec 2019 – Apr 2022

Lead QA Test Automation Engineer (Apr 2020 – Apr 2022)

Successfully turned a QA Testing Automation platform into a fully functional system after building it from scratch and offered strong leadership to a high-performing team. Developed and implemented an automated QA testing framework in a .NET environment using C# and Gherkin syntax. Integrated SpecFlow for test execution and debugging within Visual Studio. Oversaw workflows, streamlined project execution for the automation team, and facilitated Agile Scrum processes as Scrum Master.

- Designed a Jenkins-based continuous integration pipeline by collaborating closely with the DevOps team to optimize infrastructure efficiency and manage resources effectively.
- Ensured compliance with industry standards while creating and running automated QA test scripts to validate the performance of software controlling Chromatography and Mass Spectrometry machines.
- Conducted impact assessments of automation by comparing project timelines, quantifying time worked versus time saved, and using these insights to refine testing strategies.
- Maintained secure, scalable, and high-performance communication through smooth implementation of effective networking protocols. Separated data acquisition, management, and processing functions by configuring distributed systems.

QA Test Engineer (Dec 2019 – Apr 2020)

Verified software functionality, evaluated the scalability of big data systems, and confirmed compliance with CFR regulations through development and deployment of efficient test systems. Thoroughly assessed test results to create and compile detailed reports. Effectively addressed highlighted issues and implemented corrective actions in coordination with developers.

- Contributed to smooth execution of the yearly Software Test Life Cycle process within an Agile environment.

I-CULTIVER; Stanford, CA Aug 2018 – Dec 2019

Chief Research Associate – Analytical Chemistry

Gained insights into the health of tomato plants by initiating and executing chemical experiments with Stanford campus experts to analyze compounds in plant materials. Developed and executed tailored chemical analysis protocols that adapted existing techniques to derive actionable data from a range of research projects.

- Leveraged ICP-OES/MS, XRF, and C/N Analysis to perform nutrient level evaluations and elemental analyses.
- Managed extensive data analysis of over 500 experimental samples. Influenced strategic decisions within the company through creation of extensive reports and contributed to forming business strategies by delivering insightful analyses.

EDUCATION

UNIVERSITY OF CALIFORNIA SANTA CRUZ; Santa Cruz, CA

- **Bachelor of Science in Biomolecular Engineering (2017); Minors in Bioinformatics and Applied Mathematics**
  - Managed simultaneous commitments across multiple research labs, founded and led the Bioengineering Club, and executed a demanding senior project for an international competition while maintaining academic coursework.
  - Developed computational tools and scripts for advanced bioinformatics and molecular analysis. Modeled molecular phenomena such as optical traps and microbial growth using Python and SciPy.
  - Employed MATLAB and Octave to carry out high-level mathematical and statistical analyses. Performed genomic assembly and data grooming using SeqPrep, Velveth, and Pymol.
  - Conducted experimental design and data analysis using bioinformatics tools such as BLAST, Galaxy, Perl, and Geneious.

RESEARCH EXPERIENCE

MENDEL BIOLOGICAL SOLUTIONS; Hayward, CA 2018 (Feb-Aug)

Research Associate – Molecular Biology

Utilized molecular techniques and bioassays to evaluate natural products as part of a collaborative research team. Increased the precision and efficiency of laboratory workflows by employing automated liquid-handling robots. Adhered to sterile techniques to prepare reagents accurately and utilized analytical balances for precise measurements. Diligently documented all experimental procedures and assay outcomes. Elevated understanding among stakeholders by presenting complex data to small groups.

PARTCH LAB UCSC; Santa Cruz, CA Aug 2016 – Mar 2017

Undergraduate Researcher

Researched circadian rhythm proteins in human cells using molecular cloning and an engineered photo-induction system.

UCSC TEAM IGEM (International Genetically Engineered Machine); Santa Cruz, CA 2016 (May-Nov)

Metabolic Engineer

Following thorough preparatory planning, contributed to synthesizing the high-value product erythritol by engineering a novel metabolic pathway in the bacterium Bacillus subtilis in coordination with a team.

BOWMAN LAB UCSC; Santa Cruz, CA Sep 2015 – Jun 2016

Undergraduate Researcher

Executed cloning experiments and utilized sophisticated molecular biology and bioinformatics techniques to analyze results while researching the filamentous fungus Neurospora crassa.