JOSHUA ZENG

Principal Software Engineer | DevOps and Automation | Active TS Clearance

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Career Experience

Principal Software Engineer, Northrop Grumman *Oct 2019 – Present*

- Accelerate product readiness and reduce integration risk for 5 teams with CI/CD/CT pipelines and security scans in Jenkins, TeamCity and Bamboo, using IaC (Ansible, Terraform, Packer) and Jenkins SaaS cloud agents
- Lead operations and customer liaison for critical internal tooling and software suites, keeping them automated and serviceable for multiple engineering teams (Atlassian administration, artifact repositories, custom CI/CD)
- Co-maintained and enhanced MP-RTIP's C++ communications software for real-time, spec-compliant data exchange with airborne units; led DevOps for automated build, integration and Jenkins test pipelines
- Maintain internal test automation and lab configuration framework NGSIL in Python and Flask, with C#/.NET installers and Docker deployment
- Delivered NGSIL project configurations and computer vision plugins for enhanced test automation support with OpenCV
- Developed automated contract code-count reports with Grafana and AWS-loaded Postgres entity-relationship models
- Automated weekly Jira reporting with a Jenkins pipeline that pulls issue metrics and status through Jira REST API and builds per-project reports on scope and completed work for managers
- Spearheaded the modernization of a legacy automated pilot-training test suite to current SIL testing standards, integrating it with a closed-loop aircraft simulator
- Served as lead developer of the Nexus migration, authoring the Python scripts and libraries that moved all images and artifacts and tracked migration status across Artifactory and Nexus
- Created capacity-monitoring and health-check tools (C#, Selenium, Jaspersoft) that flag Atlassian instances nearing limits (e.g., custom fields) and deviations from naming, workflow and other administration standards

Senior Software Engineer, Drivven.ai *Jan – Mar 2026*

- Implemented full-stack features for an ad customer platform displaying margin and financial report metrics using Django

Software Engineer, BAE Systems *Aug 2018 – Oct 2019*

- Co-led the architectural migration of an iSCSI server from C# to C++ using multithreading and networking
- Developed a Windows packet comparison utility (C#/.NET) and a C++ port security app with PnP drivers
- Designed the front-end UI/UX for hardware and digital circuit design of an armament tester, per armament specifications

Software Engineer, Qualcomm | Manpower *Mar – Aug 2018*

- Engineered a C#/.NET desktop suite for camera Auto Focus and Auto Exposure Control tuning, pairing a backend that organizes tuning data with a front end of reports and visualizations for hardware calibration teams
- Developed a lens-movement convergence simulation that maps tuning metrics and charts targets against raw data, with an integrated XML editor for tuning camera parameters and faster tuning cycles

Camera Test Engineer, Google | Adecco *Summers 2016 and 2017*

- Created a Python color metric analysis app (OpenCV, wxPython) that auto-detects Macbeth charts for color accuracy
- Wrote a color metric tuning parser in C with an interface to directly adjust many tuning parameters the codebase lacked
- Conducted 3A KPI image-quality tests, LED, video (EIS) and power tests, and used simulation and tuning software to identify camera bugs, including hard-artifact scenes

Education

M.S., Computer Science (GPA 4.0/4.0), Georgia Institute of Technology *Aug 2020 – Dec 2025*

B.S., Electrical and Computer Engineering (ML/AI specialization), UC San Diego *Sept 2014 – June 2018*

Skills and Certifications

Languages & frameworks: Python, C#, C++, C, Java, JavaScript, HTML/CSS; Flask, Django, .NET, WPF, WinForms, Selenium, Android Studio, MATLAB

DevOps, tooling and reporting: Git (GitHub, GitLab), Jenkins, TeamCity, Bamboo, Docker, IaC (Ansible, Terraform, Packer), Artifactory, Nexus, Atlassian admin, Grafana, PostgreSQL, AWS, SonarQube, Jaspersoft, Tableau

Hardware: Arduino, Raspberry Pi, SOLIDWORKS, Fusion, oscilloscopes and signal generators

Clearances and Certifications: Top Secret, CompTIA Security+; National Instruments CLAD