Brandon P. DePalo

Full Stack Software Engineer

Contact

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Education

08/2011 - 05/2015

Computer Science (B.S.)

University of Maryland, College Park

08/2011 - 05/2015

Aerospace Engineering (B.S.)

University of Maryland, College Park

GPA 3.73

Languages

Java 10+ yrs.

Python 3+ yrs.

HTML 3+ yrs.

C / C++ 2+ yrs.

C# 1+ yrs.

JavaScript / TypeScript 1+ yrs.

FORTRAN 1 yr.

SQL 1+ yrs.

Ruby 1 yr.

OCaml 1 yrs

Prolog 1 yrs

Work Experience

Software Engineer for Transportation Safety **06/2021 - Current**

MITRE | Aberdeen, MD (Hybrid)

Working on various software projects increasing aviation safety.

IFP, Operations, and Analytics (IOAA) Tool

- Upgraded Java codebase to use Gradle. Implemented JUnit testing.
- Automated CI / CD pipeline using GitHub Actions, Concourse, Helm, and Kubernetes.
- Migrated runtime environment from a VM to cloud native microservices on AWS.
- Migrating frontend from Bower / Grunt / AngularJS to NPM / Angular / React.

Voice Data Analysis Capability Tech Transition

- Built a microservice REST API to interact voice transcription software.
- Added a Kafka consumer to receive Avro messages with S3 locations of data to process.
- Implemented a CI / CD pipeline using Bamboo to build Docker images stored in Nexus.
- Deployed and scaled in AWS using EKS

FAA-Recognized Identification Area (FRIA) Analysis Tool

- Lead developer on a new project from the ground up.
- Architected a Java software system to perform analysis on FAA-Recognized Identification Area (FRIA) requests.
- Developed a REST API using Spring / Spring-Boot
- Led code reviews. Managed repositories and artifacts.
- Working to retrieve data from various public / private sources in real time.
- Working to programmatically generate a PDF report using LaTeX or PDFBox.

Technologies:
Java | Python | PySpark | JavaScript | AngularJS | Angular | React | Node.js
Kafka | Avro | Docker | Kubernetes | Helm | AWS | Rancher | Linux | Windows
IntelliJ | WebStorm | GitHub | BitBucket | Bamboo | LaTex

Software Engineer **11/2016 - 06/2021**

Leidos | Edgewood, MD

Supported Army customer by designing and developing software to help the Chemical Biological Radiological Nuclear (CBRN) Defense mission.

Lead developer: Parrot

- Developed a set of scalable Java software modules intended to bridge data standards.
- Designed a Java framework to quickly integrate sensors to tactical networks.
- Developed modules to display live data on various Common Operating Pictures.

Technologies


JUnit 10+ yrs.

Spring / Spring-Boot 6+ yrs.

Gradle / Maven 6+ yrs.

Git 6+ yrs.

Docker / Docker-Compose 3+ yrs.

Jupyter / PySpark 1+ yrs.

React 1+ yrs.

Node.js 1+ yrs.

Webpack 1+ yrs.

Angular / AngularJS 1+ yrs.

AWS 1+ yrs.

Kubernetes / Helm 1+ yrs.

GitHub 1+ yrs.

Atlassian 1+ yrs.

Certifications

- CDL Class B w/ Passenger Endorsement
- Part 107 Certified Remote Pilot

Interests

- Aviation
- Big Data
- PC Gaming
- Cooking
- Cars

UAV Autonomy Control Software / Flutter

- Repurposed old Python code to autonomously control a UAV by dropping a JSON file into a specified directory. Automated JSON file creation based on chemical hazard detections.
- Developed a Java module to run embedded on UAV hardware (Raspberry Pi / Nvidia TX2).
- Developed a simple Java GUI command and control the UAV.
- Extended an existing Android Tactical Assault Kit (ATAK) plugin to control UAVs from an Android device.

Joint CBRNE Advanced Capability Sets

- Developed an Android application to display sensor readings and send reports.
- Designed and manufactured a prototype hardware dongle using Solidworks and 3D printing.
- Designed custom carrier board using Geppetto (manufactured by Gumstix).
- Built and compiled a custom Linux OS using Yocto.
- Added OS level rules to control the software behavior based on hardware events.

Technologies:
Java | Python | Docker | IntelliJ | PyCharm | Linux | GitLab | Solidworks | JSON Protobuf | CCSI | ISA | CoT | ATAK | AndroidStudio | Android | Yocto

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Systems Engineer PDP **07/2015 - 11/2016**
Northrop Grumman | Baltimore, MD
Worked in a rotation program for new employees starting their careers.

Rotation 1: System Security

- Worked with the Information Assurance team to complete system scans.
- Assisted Anti-Tamper team by designing system security architectures.

Rotation 2: Software

- Planned automation of operator position with C++ software.
- Worked on a Java middleware to transfer data between two pieces of hardware.

Rotation 3: Product Line Modeling

- Worked with Atego Artisan Studio to create models of existing firmware.

Technologies:
C++ | Java | Eclipse

Flight Systems Engineer Intern **Summer 2013/14**
Lockheed Martin | Greenbelt, MD
Worked on several software projects supporting the Hubble Space Telescope

Fine Guidance Sensor Simulator Code Update

- A problem was discovered with the Fine Guidance Sensors on Hubble Space Telescope and needed to be investigated.
- Worked with engineers to develop an accurate model of the issue.
- Modified simulator FORTRAN code to use the model. Verified accuracy of model by running scenarios from past missions.

FGS-2R2 Coarse Track Nutation Convergence Study

- Performed a study to determine functionality of one of the Fine Guidance Sensors on the Hubble Space Telescope.
- Presented findings to the Guide Star Acquisition Working Group.

Technologies:
Java | FORTRAN
