Allan J. Fret Cruz

Email / LinkedIn

Dallas, Texas

PROFILE

- Involved developing a system to detect code compliance and provide code recommendations for JP Morgan Chase code repositories...
- Skilled software engineer proficient in Java, Python, Databases, and various other programming languages. Proven expertise in developing robust solutions and contributing to successful projects.

EDUCATION

Master of Science in Computer Science specializing in Computing Systems Georgia Institute of Technology (Georgia Tech)

Relevant Coursework: Networks Security, Machine Learning for Trading, Graduate Introduction to Operating Systems, Computer Networks, Software Development Process, Intro to Health Informatics, Software Architecture & Design, Global Entrepreneurship

Bachelor of Science in Computer Science & Engineering

University of Puerto Rico, Bayamon

Relevant Coursework: Database, Data Structures, Computer Organization, Analysis and Design of Information System, Computer Architecture, Programming Information Systems, Fundamentals of Information System, Ethics, Project Management, Operation Research, Fundamentals of Operating Systems, Statistics and Probability, Discrete Math, Pre-Calculus I & II, Calculus I & II.

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TECHNICAL SKILLS

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Java •

- Python
- Agents
- AWS

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RAG

Prompt Engineering • Bash scripting React

PHP

Jenkins

PROFESSIONAL EXPERIENCE

Lead Software Engineer

JPMorgan&Chase. Plano, Texas

Software Engineer III

JPMorgan&Chase. Houston, Texas.

• Developed a system designed to assess code compliance with JPMC's rigorous risk and controls standards. This innovative solution not only evaluates projects' code against the established standards but also offers compliant code recommendations to users. This initiative contributes to maintaining a high level of adherence to JPMC's risk and controls protocols, ensuring the integrity and security of the codebase while facilitating user-friendly, compliant coding practices.

Avionic Systems Division – Student Trainee (Engineering)

NASA Johnson Space Center, Texas

- Performed imagery analysis for xEMU by using Imatest, H.264 and H.265 encoders and decoders.
- Reconfigured multiple imagery analysis testing tools that would have cost thousands of dollars to replace.
- Established and set up a dark room for future imagery analysis.
- Developed Test Plan on how to perform using imagery analysis by taking into account the type of camera, lighting, and distance.

Avionic Systems Division – Student Trainee (Engineering) NASA Johnson Space Center, Texas

- Created a Multithreaded Python GUI Application for the Modal Propellant Gauging (MPG) Project.
 - This application reduced the previous application code by 50%, and moved from a single 0 threaded to a multithreaded architecture.

(August 2022 - January 2025)

Overall GPA: 3.25 Graduation: May of 2019

Overall GPA: 3.60

Graduation: Dec 2024

(January 2025 - Present)

(May 2022 - July 2022)

(January 2022 - April 2022)

- Without the GUI we had to comment/uncomment lines of code to process/plot sensors. Now it can be as easy as clicking which tank and sensors to plot.
- The application processes the data in constant time, so it doesn't let the sender wait until it finishes processing the data.
- Created a demonstration to show the capabilities of the TTE Gateway Network when streaming multiple audio and video streams over the network. We wanted to demonstrate the capability of being able to use the TTE Switches to tag multiple VLANs to the stream, and having a Layer 3 switch understands the tags and forwards them to the right clients.
 - Created a demonstration to stream multiple video and audio streams.
 - Configured and integrated a WAP into the demonstration.
 - Established the architecture diagram for integrating the L3 Switch.
 - Integrated a network tap to validate that the TTE Switches can tag packets with multiple VLAN IDs
 - Created a Developer Guide and Test Plan to facilitate future developments
 - Coordinated with Marshall for the delivery of a 360-video emulator.

Avionic Systems Division – Student Trainee (Engineering)

NASA Johnson Space Center, Texas

- Developed a bi-directional G.729 VoIP Compression Application. This system is used in the Avionic Systems Division Audio lab to test commercial and in house-built G.729 audio systems.
- The application can:
 - Support audio compression for encoding and decoding with G.729, G.729a, and G.729c algorithms.
 - Encode/Decode Raw and Wave audio files.
 - Encode in real-time audio captured from the microphone, and sends it to another G.729 system.
 - Decode in real time G.729 data received over the network.
 - RTP Protocol Support
 - Down sample multiple files at the same time.
 - Media player (play, stop, resume audio)
 - Logs the process of the application to a file.
 - Cross/Platform (Windows / Linux)

Ground Flight Application Software Team (GFAST) – Software Engineer ERC Inc, at NASA Kennedy Space Center, Florida

- Designed and developed software tools to be used by the subsystems teams to facilitate technical tasks.
- Performed integration across the TOSC sub-system teams to assure continuity of the software products.
- Performed technical development of software products and processes to include schedules, methodologies, requirements, analyses and documentation design and coding, configuration and data management, testing, processes, review and data inspection.
- Performed development and evaluation of documentation for support of internal and project level peer reviews, code walkthroughs, and other projects deliverables associated with the Software Development Life Cycle (SDLC)

RPL - Advance Caution and Warning System (ACAWS) – Software Engineer Intern (August of 2018-April of 2019) NASA Johnson Space Center, Houston TX

- Created a GUI application to inject failures. This Application reduces the number of steps and knowledge the user needs to have, in order to simulate a failure in the Orion Spacecraft.
- Developed a Lunar Mission Simulation and Launch Displays used to train Flight Controllers and Astronauts.
- Developed multiple failures to affect the Orion Spacecraft during the mission simulation. This helped us to exercise the Orion cockpit, and the Ground displays. These failures were detected by our autonomous system to detect failures (ACAWS).
- Automated processes by developing scripts to perform a certain task.
- Generate reliable, and high-fidelity sensor data for the different systems of the Orion spacecraft.

EA5 - Project Management and Integration Office – Software Engineer Intern (June of 2018- August of 2018) NASA Johnson Space Center, Houston TX

- Developed a Database Management System (DBMs) to keep track of parts of different assemblies.
- Worked in a group to help develop a VBA script to simulate extracting water from Mars using the Rodwell method.
- Examined aspects of the Engineering Directorate's IT infrastructure and associated processes, gathered data, analyzed that data for patterns and trends, and recommended processes and management improvements.

(January 2021 - August 2021)

(June of 2019-January 2021)

CERTIFICATIONS

MTA: Software Development Fundamentals MTA: Database Fundamentals (Received: April of 2018) (Received: April of 2018)