

Chicago, IL
U.S. Citizen

Johan A. Ortega-Rios

(773) 559 5787
jortega-rios@outlook.com
linkedin.com/in/jaortegar/

Education

University of Illinois

Urbana-Champaign, Illinois

Aug 2019 - May 2023

- B.S. in Computer Engineering

Languages and Technologies

- Languages: C, C++, JavaScript, Typescript, Python, Rust, Ruby, Java, SQL, Scala, Bash
- Frameworks and Libraries: Rails, Spring, React, Astro, Express, Redux, Expo
- Tools: Buildkite, Node, Vite, Postgres, GraphQL, Protobuf, Next.js, RabbitMQ

Employment

Software Engineer - IRS

Remote - ATI Govt. Solutions

Mar 2025 – Oct 2025

- Led initial design and development of core date calculations and methodology in Scala backend
- Quickly iterated frontend design in Typescript and React alongside embedded designers on sprint team
- Actively identified and developed extensions to an open-source [DSL](#) by the IRS based in Scala

Software Engineer

Remote - US Digital Corps

Aug 2024 – Feb 2025

- Implemented tax policy through a Scala-based [DSL](#) for [IRS Direct File](#)
- Collaborated with design team to develop and refactor application UI and flow in React and Typescript
- Updated Java backend for PDF/XML generation interacting with the IRS e-file API

EAS Engineer

Chicago, IL - Echo Logistics

Feb 2024 – Aug 2024

- Used tools such as AWS Cloudview, Splunk, and Datadog to identify past and ongoing application issues
- Debugged Dotnet, ASP Net, and React Native + Angular applications based on user reports
- Developed and maintained Dotnet/ASP.net applications as well as dependent SQL stored procedures

Software Engineer

Chicago, IL - Flexport

May 2022 – Oct 2023

- Collaborated across teams to implement accurate modelling and storage of trucking schedules in Ruby and Postgres, with GraphQL + gRPC endpoints for internal access
- Developed an in-house UI library using Typescript for use in React Native development, with Elasticsearch capabilities
- Developed and tested cargo label generation using a Rails backend and React frontend. Reducing an average of 40000 UI interactions per week

Technical Experience

Projects

- **CUDA CNN Layer**
 - Implemented an input convolution layer for a neural network based on the LeNet5 architecture using CUDA
 - Optimized input data processing using parallel programming design patterns such as:
 - * Tiled Shared Memory
 - * Shared Memory Matrix Multiplication and Input Matrix Unrolling
 - * Atomic Operations to Reduce Input Channels
- **RISC-V CPU**
 - Worked in a team of 3 to implement a pipelined CPU based on the RISC-V 32-bit ISA using System Verilog
 - Features implemented in addition to the base RISC-V ISA are:
 - * 2-Level Caching of Instruction and Data reads
 - * Hardware-based Prefetching (One Block Lookahead)
 - * RISC-V M Extension