

Jeremy Martinez

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EXPERIENCE

Avalara, Seattle, WA — Sr. SWE (I4) - AI/ML

January 2022 - PRESENT

- Avi - RAG-based LLM chatbot leveraging a (self hosted) Qdrant vector store with embeddings of proprietary documentation (support, Ava University, API docs, etc.) for automated support chat
 - Check out this [press release](#) or this [recorded demo](#) to learn more
 - Parsed and loaded [support documents](#) into vector store
 - Built internal workbench (with Vue) to interact with Avi and review conversations for debugging
- AI/ML tool for [tax exemption certification processing](#) reducing support staff work load by 80%
 - Tool components: PDF pre-processing, OCR to extract text, NER (spaCy), signature detection
 - Classification and named-entity recognition (NER) modeling using AWS SageMaker
 - Signature detection model - binary classification and localization in document (YOLOv3)
- Development, versioning, storage, and continued training of new/existing models with ClearML
- content-engineering - POS product to process large amount of data for clients using step functions

Avalara, Seattle, WA — Sr. SWE (I3) - Web-platform

May 2020 - December 2021

- app-archetype - scaffolding/architecture tool for all Avalara engineering products, internal npm registry
- [Skylab](#) - internal styling / re-usable component library for frontend dev.
- Built internal re-usable npm packages (Avalara OIIC)

Avalara, Seattle, WA — Sr. SWE (I3) - UI

June 2018 - March 2020

- Working with stakeholders on defining business needs, translating into technical implementation
- buy.avalara.com - purchase platform - fully automated blue/green deploys, react, Node, AWS
- [account.avalara.com](#) - React.js, redux, webpack, jest (testing), UX/UI design, Segment analytics
- nexus.avalara.com - Architecting and implementing tax nexus determination tool

SKILLS

React / Vue | Redux |
Express.js | Terraform | AWS |
Azure | OpenAI | PyTorch |
Docker | Kubernetes | Helm |
Git | CI/CD | Vector stores
(Qdrant) | SQL | NoSQL |
Grafana | Prometheus | SpaCy
| FastAPI | Swagger |
MosaicML | Kafka | REST |
SPAs | Jenkins | Gitlab | LLMs
| HuggingFace | Pandas |
Numpy | OOP | ClearML |
YOLOv3 | RAG chatbot | Nginx

LANGUAGES

English | Spanish (B1) |
German (A2)

Python | TypeScript | JS |
Node.js | Bash | HTML | CSS

Avalara, Seattle, WA — SWE (I2) - UI

May 2017 - June 2018

- developer.avalara.com - Swagger based custom website for AvaTax API docs
- admin.avalara.com - AvaTax main interface

Figo GmbH, Hamburg, Germany — Backend SWE

June 2018 - March 2020

- Feature writing & maintaining online multi-banking API that interfaces with banks API's and websites.
- Working with team writing and reviewing code, managing releases, ticket management (JIRA).
- Maintaining public SDK (Node.js).

INTERSHIPS / PROJECTS

Washington State University, Pullman, WA — Senior Design Project

January 2015 - December 2015

- Designed mobile app to track activity. Collaborated with team on API, database, mobile app, and ML

Washington State University, Pullman, WA — IT Security

October 2014 - January 2016

- Puppet scripting, enterprise network & server configuration, APT analysis, Metasploit, Splunk.

WSU Anthropology, Pullman, WA — Django Developer

September 2014 - April 2015

- Website for anthropology dept. (full stack). Tech used: Django, CentOS, PostgreSQL, nginx

Minapsys, Spokane, WA — SWE Intern

June 2014 - July 2014

EDUCATION

Georgia Institute of Technology, Online — Master of Science in Computer Science

2018 - 2021

- Specialization in Interactive Intelligence (ML, AI4R, ML4T, Ed. Foundations, HCI, KBAI, RL, DL, ALG)
- 3.4 cumulative GPA

Washington State University, Pullman, WA — Bachelor of Science in Computer Science

2011 - 2015

- 3.35 cumulative GPA
- Junior Writing Portfolio – Pass with Distinction – Top 10% of Graduating Class

RELATED SCHOOL EXPERIENCE

Graduate algorithms

- Dynamic programming, divide & conquer, graph algorithms (BFS, DFS, Dijkstra's, etc.), max-flow, linear programming, NP-complete

Deep learning

- CNN model construction - linear layer, max pooling, loss function
- PyTorch application to larger scaled models
- fastMRI model implementation and final project

Reinforcement learning

- Lunar lander leveraging Q-learning - [Lunar Lander code and report](#)
- Correlated Q-learning recreation of research paper - [Correlated Q-learning report](#)

Machine learning

- Markov decision process - minimizing elevation gain while navigating through Seattle - [Report](#)
- Unsupervised learning and dimensionality reduction - [Report](#)

Human computer interaction

- Project on breakdown of elevator interface - [Report](#)