Jeremy Martinez - Software Engineer
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Education

- Georgia Institute of Technology – 2018–2021 – **3.4** Cumulative GPA
  - Specialization in Interactive Intelligence (ML, AI4R, ML4T, Ed. Foundations, HCI, KBAI, RL, DL, ALG)
- Washington State University – 2011–2015 – **3.35** Cumulative GPA
  - Bachelor of Science in Computer Science
  - Junior Writing Portfolio – Pass with Distinction – Top 10% of Graduating Class

Technical Experience

JavaScript/TypeScript, Node.js, Python, Bash, HTML/CSS			AWS / GCP / Azure	CI / CD
React / Vue, Redux, Webpack	PyTorch, SpaCy		MosaicML, SageMaker	Prometheus
Supervised / Unsupervised Learn..	Git	Terraform	LLM / RAG development	Qdrant / vector store
MySQL, PostgreSQL, MongoDB	Docker	Agile / Scrum software development		Grafana / SumoLogic

Related Work Experience

- **Senior Software Engineer - Full Stack / Machine Learning** *at Avalara* May 2017 – 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
    - 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%
    - Supported documents which amount to 80% or higher of total volume
    - 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 (YOLOv5)
  - Development, versioning, storage, and continued training of new/existing models with ClearML
  - 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
    - Working with product and design to build out services that drive revenue from entire company
  - nexus.avalara.com - Architecting and implementing tax nexus determination tool
  - app-archetype - scaffolding/architecture tool for all Avalara engineering products, internal npm registry
  - content-engineering - POS product to process large amount of data for clients using step functions
- **Backend Software Engineer** *at Figo GmbH* February 2016 – April 2017
  - 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).
- **Senior Design Project** *at WSU* January 2015 – January 2016
  - Designed mobile app to track activity. Collaborated with team on API, database, mobile app, and ML
- **IT Security** *at WSU Security* October 2014 - January 2016
  - Puppet scripting, enterprise network & server configuration, APT analysis, Metasploit, Splunk.
- **Django Developer** *at WSU Anthropology Dept.* September 2014 – April 2015
  - Website for anthropology dept. (full stack). Tech used: Django, CentOS, PostgreSQL, nginx
- **Software Developer - Intern** *at Minapsys* June 2014 – July 2014

Related School Experience

- **Graduate Algorithms** *at Georgia Institute of Technology* Summer 2021
  - Dynamic programming, divide & conquer, graph algorithms (BFS, DFS, Djakstra's, etc.), max-flow, linear programming, NP-complete
- **Deep Learning** *at Georgia Institute of Technology* Fall 2020
  - CNN model construction - linear layer, max pooling, loss function
  - PyTorch application to larger scaled models
  - fastMRI model implementation and final project - github.com/kapoor1992/CS7643_Project
- **Reinforcement Learning** *at Georgia Institute of Technology* Summer 2020
  - Lunar lander leveraging Q-learning - Lunar Lander code and report
  - Correlated Q-learning recreation of research paper - Correlated Q-learning report
- **Machine Learning** *at Georgia Institute of Technology* Spring 2018
  - Markov decision process - minimizing elevation gain while navigating through Seattle - Report
  - Unsupervised learning and dimensionality reduction - Report
- **Human Computer Interaction** *at Georgia Institute of Technology* Fall 2019
  - Project on breakdown of elevator interface - Report

References

Alan Balasundaram – Director of Engineering – Avalara – balasuar@gmail.com
Aaron Colby – Lead Software Engineer – Minapsys – acolby@live.com