

# Dante Mazza

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Languages: **Python, Java, C, C++, JavaScript, MATLAB/Octave, SQL, VHDL, RISC-V**

Libraries/Frameworks: **Numpy, Pandas, TensorFlow, Keras, PyTorch, Flask, Node.js**

Tools/Infrastructure: **Git, Docker, Linux, AWS (S3), IBM CP**

## Work Experience

**Software Engineer** | KCM Solutions

Jan 2021 - Apr 2021

- Deployed a chatbot and wrote microservices in **Node.js, Python** to implement contact info collection and user interaction; interfaced with Watson v2, Twilio APIs and hosted on IBM cloud platform
- Leveraged the MS Graph API to write a **Python** service for coordinating meetings with Watson users according to client's free/busy times, freeing up dozens of hours of scheduling time
- Created containerized **CentOS** enterprise software environments with **Docker/Compose** and **bash** scripting for centralized use; established network communication, LDAP authentication, database connections

**Machine Learning Engineer** | Bear Health Technologies

Sept 2020 - Present (part-time)

- Determined pipeline evaluation metrics and calculated with **SQLite** querying and **Pandas**, streamlining efforts
- Prototyped signature/logo removal algorithms with **OpenCV/NumPy**
- Continuing to develop rules-based **Python** AI to support ML prediction; increased indexation ability by 5x

May 2020 - Aug 2020

- Designed and wrote **Python** image and text JSON/PDF feature pipelines (**S3, NumPy, Pandas, Pickle, multiprocessing**), facilitating dataset transformation and reducing model deployment time by 75%
- Performed R&D via prototyping, implementing, and evaluating CNN (**Tensorflow, Keras**), NLP (**Huggingface Transformers**), k-means clustering (**sklearn**), hybrid models; combined with rules-based algorithms
- Leveraged **Keras'** batch training interface for pickling of large datasets, reduced training time by 90%
- Designed and wrote document clustering algorithms that reduced prediction time by 85% and several other ML pipeline features/bug-fixes in **Python** to support model deployments while practicing unit testing with **pytest**

**Software Developer** | SAP SE

Sept 2019 - Dec 2019

- Delivered **Python/Selenium** GUI test coverage with a 95% pass rate across multiple software versions (designed **XPath** queries to account for varying **HTML DOMs**)
- Repaired and refactored **Java/TestNG** performance test suite and sped up case runtime by 60%

## Projects

**Boolean Solver** - [github.com/dantemazza/boolean-solver](https://github.com/dantemazza/boolean-solver)

- **Flask** app that employs Quine-McCluskey/Petrick's Method for simplifying boolean expressions, making it a convenient option for least-cost digital circuit design

**Language Classifier** - [github.com/dantemazza/langram](https://github.com/dantemazza/langram)

- **PyTorch** model that accurately classifies the language of text input with n-gram frequency analysis

**Desktop Chess** - [github.com/dantemazza/desktop-chess](https://github.com/dantemazza/desktop-chess)

- **Java** chess application that uses object-oriented design principles and a **JavaFX** UI

## Education

**University of Waterloo** | Candidate for BAsC, Computer Engineering

- **Deans Honour's List** (first year)
- Relevant coursework - Systems Programming & Concurrency (**C**), Data Structures & Algorithms (**C++**)