# Matt Serdukoff

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## SUMMARY

Data scientist with a focus on machine learning, natural language processing, and data-driven problem-solving. Proven ability to develop and implement analytical solutions that deliver measurable value across the data lifecycle. Experienced in data modeling, exploratory analysis, and agile methodologies. Proficient in multiple languages, enabling cross-cultural collaboration and adaptability.

# **PROFESSIONAL / TECHNICAL EXPERIENCE**

### MASSACHUSETTS EXECUTIVE OFFICE FOR ADMINISTRATION AND FINANCE:

AI Engineering and Data Science Intern

- Engineered end-to-end ETL pipelines in Python to ingest and preprocess heterogeneous PDF content (text, tables, images) for downstream NLP tasks
- Designed and implemented layout-analysis algorithms to segment and classify document elements, improving extraction accuracy across diverse formats
- Integrated and evaluated machine-translation services within the workflow, applying data-driven quality checks to ensure consistency and fidelity of translated text
- Automated batch processing across large document corpora, leveraging parallelization and performance profiling to minimize per-file runtime

### **HIME:** (Part-Time)

ML Engineer, Hime Skin Analysis Application

- Designed and deployed machine learning models for dermatology applications, integrating real-time predictive and descriptive analytics.
- Utilized Python, PyTorch, and Docker to build and optimize algorithms, ensuring high efficiency and accuracy on mobile platforms.
- Created scalable microservices and implemented CI/CD pipelines using GitHub Actions for seamless model deployment and maintenance.

### Software Engineer, Wheelbase

- Developing Wheelbase, an automated auction management platform, leveraging NextJS and Supabase for seamless data handling and dynamic front-end experiences.
- Designed and implemented secure multi-tenant systems, RESTful APIs, and CI/CD pipelines, ensuring efficient deployment and scalability.
- Streamlined auction workflows with real-time updates, improving user productivity.

# **PROJECTS:**

#### <u>Grammario</u>

- A NextJS web application being designed to simplify grammar learning through NLP/AI.
- Automated morphological analysis and grammatical breakdowns, delivered in a structured JSON format.
- Detailed analysis of roots, parts of speech, noun cases, verb tenses, and word relationships.

### Predicting Cardiovascular Disease using Machine Learning

- Developed machine learning models, including Naïve Bayes, Logistic Regression, Linear Regression, and Decision Trees, to predict cardiovascular disease based on patient data.
- Focused on feature engineering, model evaluation, and performance tuning.
- Demonstrated proficiency in Jupyter Notebook, Scikit-learn, and data visualization techniques.

#### SKILLS

- Languages: Python, R, C/C++, SQL, HTML, CSS
- Libraries/Tools: Pandas, NumPy, Matplotlib, Scikit-learn, PyTorch, Natural Language Toolkit, MLFlow
- Domains: Machine Learning, Natural Language Processing, Deep Learning, Feature Engineering
- Other: CI/CD Pipelines, Microservice Architecture, Docker

### CERTIFICATES

- Neural Networks and Deep Learning, Natural Language Processing by DeepLearning.AI

### **EDUCATION**

March 2024 – Present

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