Mileva Van Tuyl

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SUMMARY

Senior software engineer with an M.S. in Data Science and industry experience at the intersection of software and machine learning. Proven experience leading cross-team projects comprised of engineers, data scientists, and business folks alike in Agile settings.

EDUCATION

New College of Florida, M.S. in Applied Data Science, GPA: 4.00/ 4.00   Aug 2021 – Dec 2022
Wellesley College, B.A. Computer Science, GPA: 3.97/ 4.00   Sept 2017 – June 2021

RELEVANT SKILLS

- Python (FastAPI, Pandas/NumPy, SQLAlchemy)
- Databases (PostgreSQL, MongoDB, SQLite)
- Machine Learning (scikit-learn, PyTorch, MLFlow)
- DevOps (Docker, Terraform, K8s, Git CI/ CD)
- AWS (S3, CloudWatch, Lambda, SageMaker)
- Miscellaneous (Rust, Prometheus, Grafana, Prefect)

EXPERIENCE

Analog Devices, Senior Software Engineer, Software Engineer   Jan 2023 - Present
- Software lead for *Nimble*, a 5-person team developing machine learning pipelines and software simulations to model optical systems for biomedical applications (**Python**, **PyTorch**, **MLFlow**).
- Led redesign of the team's *Documentation Index* restoring access to software documentation for 80+ tools by implementing backend systems (**FastAPI**, **MongoDB**, **AWS**) and coordinating a team of 6 engineers (backend, frontend, devops).
- Architected *Spicelake*, an edge-to-cloud software system delivering data 15x faster (**Python**/ **Rust**, **Postgres**/ **MongoDB**, **Terraform)**. Worked with 6+ engineering managers across 4 departments enabling a successful project graduation.
- Built end-to-end observability tools for production-level systems using **Prometheus**, **Grafana**, **Terraform**, and **Kubernetes**.
- Organized *Doc-A-Thon*, a 30-person event resulting in 350+ pages of documentation and the deployment of a new docs site.
- Mentored junior engineers, ran scrum, presented at "lunch and learns," and served on interview panels for 10+ new hires.

Minerva Analysis, Data Scientist   June 2020 – Dec 2022
- Worked with 15+ years of health and behavioral data from diabetics to predict blood glucose levels using **SQL** and **Python**.
- Built cloud applications and visualizations to present data insights to engineering teams and business leaders (**Flask**, **Plotly**).

IBM, Data Scientist Intern   May 2022 – Aug 2022
- Served as an open-source developer on *AI Fairness 360*, a toolkit mitigating discrimination and bias in machine learning models using **Python** and **R**. Worked with 10 algorithms and 70+ fairness metrics to promote trustworthy AI practices.

Genospace, Full-Stack Software Engineering Intern   June 2021 – Aug 2021
- Built data intake systems ingesting medical records into Genospace's precision medicine platform (**Vue.JS**, **Groovy/ Grails**).

MIT Media Lab, Project Co-Lead, Machine Learning Team Lead   May 2020 – Jan 2021
- Technical lead for *Saving Face*, an open-source COVID-19 technology alerting users if they touched their face.
- Improved machine learning model performance by over 15% and deployed the model in an iOS application using **Swift**.
- Applied statistical and machine learning techniques (including logistic regression, decision trees, and neural networks) to analyze audio data and implement, optimize, and validate machine learning models using **Python** and **Scikit-learn**.

Cred Lab at Wellesley College, Research Fellow   Sept 2018 – Aug 2019
- Scraped and analyzed 2.5 million tweets and 5000+ Google pages using **Python** to study the spread of misinformation.

PUBLICATIONS AND SELECTED PRESENTATIONS

Spicelake: A Reusable Edge-to-Cloud System, **ADI Global Technical Conference**   Apr 2025
A Scalable Solution for Signaling Face Touches to Reduce the Spread of Surface-based Pathogens, **ACM IMWUT**   Mar 2021
Machine Learning for Gesture Recognition to Reduce COVID-19 Transmission, **UMass Amherst**   Feb 2021
Detection of methoxymethanol as a photochemistry product of condensed methanol, **MNRAS**   Feb 2019

AWARDS AND HONORS

Grace Hopper Celebration Scholar (2021) and Speaker (2023)   Oct 2021, Sept 2023
Jacqueline Fowler '49 Public Speaking Prize, Ruhlman Conference, Wellesley College   May 2021
Best Poster Award, Voices of Data Science Conference, UMass Amherst   Feb 2021