EVA GARCIA MARTIN

Senior Data Scientist

Sr. Data Scientist with several years of experience as an ML researcher, ML engineer, and data scientist. I love coding ML algorithms, building neat ML solutions, collaborating and working with diverse teams.

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Technical Skills

Languages

Python, C++, C, Java, Bash, R, SQL.

Machine Learning

Gradient Boosting, Neural Nets, CNNs, LSTMs, Federated Learning, Knowledge Distillation, Random Forest, Hoeffding Trees, SVMs, self-supervised learning algorithms.

ML Frameworks / libraries

TensorFlow, TFLite, scikit-learn, keras, NumPy, pandas.

Technologies / OS / other

Linux, AWS, Google Cloud, Gitlab CI/CD, GitHub Actions, Git.

Soft Skills

Good communicator, both for technical and non-technical audiences, empathetic, supportive mentor, good listener, team player, attention to detail.

Work Experience

Sr. Data Scientist — **Ekkono Solutions** — **Aug. 2019 - Present**

Ekkono is a startup that develops edge machine learning algorithms, providing customers with an SDK to run lightweight ML algorithms on the target device, from an Arm Cortex M0 to a RaspberryPi.

My work is at the intersection of ML engineering, where I develop algorithms for Ekkono's SDK, ML research, where I research algorithms for the long-term roadmap, and data science, where I work with customer data and solutions.

- Research lead: Main responsible person for all the research projects at Ekkono. This includes coordinating and planning with all 30+ partners involved, and developing the ML solutions.
- Implemented features for Ekkono's SDK in C++, such as neural nets for Ekkono's tensor framework.
- Developed ML algorithms from scratch in Python: neural nets, gradient boosting, federated learning, knowledge distillation, Hoeffding trees.
- Implemented lightweight ML and deep learning solutions using TensorFlow, TFLite, and Ekkono's SDK in Python and C. This included data pipelines, feature engineering, and algorithms, e.g., LSTMs, CNNs.
- Built end-to-end solutions for different customers (e.g., Volvo, Siemens, Alstom). This involved business understanding, data processing (AWS), data analysis, feature engineering, ML modeling, deployment on embedded devices, and communication of findings.
- Improved customer relationships by being the technical expert in initial customer meetings.
- Responsible for mentoring and onboarding of interns and new staff.

Researcher / PhD Student — **Blekinge Institute of Technology** — **Jan. 2015 - Jan. 2020**

The aim during the PhD was to evaluate approaches to reduce the energy consumption of machine learning algorithms, with a two-fold goal: i) to create lightweight algorithms that could run on-device; ii) to create more sustainable ML algorithms that can be trained without needing expensive computation.

- Published 15+ articles in international conferences and journals, communicating the research to audiences of different expertise levels.
- Organized the first workshop targeting the intersection between sustainability, machine learning, and energy efficiency (https://greendatamining.github.io).
- Improved the time complexity, memory and energy consumption by 70% of state-of-the-art decision trees on streaming/real-time datasets. Implemented those algorithms in C and Java.
- Teaching assistant for the Machine Learning and C courses.

Business Analyst **Indra** **Mar. 2014 - Dec. 2014**

- Analyzed data from a MongoDB (NoSQL) database for different customers using R and Python.
- Communicated the findings, visualized the results and presented suggestions on how to improve customer targeting.

Education

PhD in Computer Science **2015 - 2020**

Blekinge Institute of Technology, Karlskrona, Sweden

Thesis: Energy Efficiency in Machine Learning: Approaches to Sustainable Data Stream Mining

Msc in Computer Science **2012 - 2013**

Blekinge Institute of Technology, Karlskrona, Sweden

Thesis: Large-Scale experimentation and statistical analysis on social Twitter data

BSc in Telecommunications Engineering **2009 - 2013**

Rey Juan Carlos University, Madrid, Spain

Personal Projects

I enjoy hacking solutions using bash/zsh and python. Some of my personal coding projects can be found in my GitHub. Some that are relevant to mention:

- Coding neural networks from scratch in Python.
- Classifying music genres using Convolutional Neural Networks and TensorFlow.
- Advent of Code: started this in 2021 and plan to continue the following years.
- Personal server: I have my own server running Raspbian on a Raspberry Pi where I have different services on Docker containers and running behind an Nginx reverse proxy server. All of that mounted as a NAS.

Languages

English: Proficient
Swedish: Conversational
Spanish: Native
Italian: Fluent
French: Elementary

Organizing and Volunteering Experience

Tech Advisory Board **Women in Tech Gothenburg** **May 2021 - Present**

This entails advising startups on, and through, their product development process - ultimately improving the quality of their solution and speeding up their time to market.

PC Member **NeurIPS, ICML, ICLR** **2017 - Present**

Reviewer for key ML conferences.

Organizer and Coordinator **Green Data Mining Workshop** **2018 - 2020**

Main organizer and coordinator for the green data mining workshop, co-located at the European Conference on Machine Learning (ECML).

Sponsorship Co-Chair **ICDM** **2021**

Sponsorship co-chair for the 2021 edition of the International Conference on Data Mining (ICDM).