Jonas Fassbender

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Synopsis

Software Engineer with a background in Data Science and Machine Learning, focused on predicting with certainty. Well versed in parallel and distributed computing techniques and patterns. Passionate about implementing distributed, data-heavy applications and fast algorithms efficiently while maintaining good software practices. Searching for the most obvious and simplest solution.

Professional Experience

Jan 2020 – now: Self-employed Software Engineer.

- **carpolice.de.** Insurtech platform for car dealers, enabling them to sell car insurance products. Used by 300+ car dealers to sell 2k insurance policies since launch in April 2021. RESTful API-first microservice application written in Rust with a web client written in Dart/Flutter. Hosted on GKE. Used technologies include MongoDB, Redis, Elastic stack, Keycloak, ROOK/Ceph and OpenVPN. Creator and maintainer of 70k+ LoC.
- **German Sport University Cologne.** Created the technical domain specification for an application for teachers to conveniently generate rich semester plans that apply Inquiry-based Learning. Currently in the stage of raising funds for development.
- **Improving the consumer loan approval process of a German bank using Machine Learning.** Applied a Conformal Prediction based classifier to pre-reject loan requests likely to be declined, saving the fee of querying a credit bureau. Able to pre-reject 17% of all rejected requests while maintaining an accuracy of 98%. Currently not applied in production due to a policy shift of the bank in wake of the COVID-19 pandemic.

Sep 2018 – Jul 2019: Working Student, RLE International. In a team with other students, explored ways for RLE International to adopt Machine Learning as an emerging technology and create ML-powered products and solutions for customers. Applied different ML-models to OEM ECRs (Engineering Change Requests) of an automobile manufacturer, predicting whether an ECR is going to take too much time to be resolved.

Jul 2015 – Aug 2016: Small Business System Administrator, Lieb EDV Beratung. Set up and maintained backup systems and performed general administration tasks on Windows servers and domains for several small businesses.

Open Source Contributions

Creator and maintainer of various Rust crates: Libraries containing solutions concerned with (i) meta-programming based abstractions (procedural and declarative macros), (ii) (de)serialization, (iii) the actix-web framework and (iv) solving utility tasks such as parsing an environment file or logging HTTP-requests across multiple services. 15k+ downloads.

Flutter: Contributed to the `PaginatedDataTable` widget from Flutter's Material Design library.

SpiNNaker: Contributed bug fixes and API enhancements to the Graph and Common Python Frontends of the SpiNNaker software stack.

Education

Sep 2019 - Sep 2020: MSc High Performance Computing with Data Science, University of Edinburgh. Thesis: Deep Learning on SpiNNaker

Oct 2016 - Aug 2019: BSc Computer Science, Technical University of Cologne. Thesis: Approximating the Optimal Threshold for an Abstaining Classifier based on a Reward Function with Regression

Technologies

Programming languages	Rust, Dart, Python, JavaScript, Julia, Bash, C, Go, Fortran
Cloud Computing	Kubernetes, Docker, Google Cloud Platform, Elastic Cloud on Kubernetes, ROOK/Ceph, Firebase
Data Science	scikit-learn, Keras, Tensorflow, numpy, pandas, DataFrames.jl, Matplotlib
Others	Flutter, HTML+CSS, OpenID Connect, Keycloak, Git, LaTeX, OpenSUSE/Linux, SQL, MongoDB, Redis, Elastic stack, RabbitMQ, Kafka, MPI, OpenMP