

Peter Hagen

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EXPERIENCE

- **Uber** Amsterdam, Netherlands
Software Engineer Intern Oct 2019 - Mar 2020
 - Removed roadblocks to wider internal adoption of Uber's containerized cloud development environments, such as automating Kubernetes deployments or persisting user certificates. Enabled team's H1 objective of improving Java build times by resolving Uber's monorepo Buck build targets to the remote Java Language Server via Python.
 - Leading initiative to build *devpod.uberinternal.com* using Kubernetes, a way to securely access temporary dev environments - incentivizing shorter change turnaround time. Building TypeScript code editor extensions and designing protocol to reduce context switches between 10+ internal tools and to standardize across companies.
 - Designed CI/CD configuration language to solve developer experience problems with YAML files at Uber's scale. Implemented runner in Go to execute these CI jobs with increased observability, error handling and parallelism - e.g. the job that provides test results for Uber's Java monorepo. Iterated on design through demos with stakeholders.
 - Created rich development support for the Starlark language by writing syntax tree transformations that allow to use existing Python tooling, aiding a company-wide effort of replacing infrastructure definitions through Starlark files.
- **move:elevator** Dresden, Germany
Working Student in Software Engineering Aug 2018 - Jan 2019
 - Reduced loading speed of company's product by several seconds, after introducing lazy data loading implemented with Redux & RxJS event streams. Implemented offline-first server synchronization and robust error handling to increase reliability in flaky mobile network conditions and thus the tool's dependability for business clients.
 - Implemented frontend features using React and Redux, including a performant search functionality. Pushed for increased end-to-end testing and debugged issues including data corruption or degrading rendering performance.
 - Implemented redesign of a client's React-Native mobile app, leading to a 1 star increase in app store ratings.
- **ITC AG** Dresden, Germany
University Project Oct 2017 - Feb 2018
 - Built innovative shop checkout flow prototypes, to evaluate tech choices for companies tech reorientation in a team of 5. Led JavaScript development and designed data architecture using React and MobX. Picked technologies and approaches to showcase modern state management concepts and their development complexity tradeoffs.
 - Developed a flexible form validation framework for stepwise user registrations, allowing fast customization for different clients. Data is modeled reactively, enabling autocompletion for address fields or skipping certain pages.

EDUCATION

- **Technical University Dresden** Dresden, Germany
Bachelor in Computer Science October 2016 - March 2020
 - Wrote bachelor's thesis analyzing the effect of workload parallelism on the energy efficiency of modern CPUs.

PROJECTS

- **tlds.cool**
Domain availability search engine focused on speed and user experience
 - Reduced domain search latency from 2s (domains.google.com) to 50ms by storing 150M domains in globally replicated AWS DynamoDB. Build a proxy service to update incorrect data on-demand using AWS Lambda.
 - Designed and implemented a concurrent Go algorithm based on lookup windows to compare large DNS zone files, improving daily database update time and AWS EC2 cost 20x over the standard approach of sorting the files.
- **beamd.io**
Web app to easily and securely copy links and passwords between devices
 - Implemented secure peer-to-peer communication with asynchronous Redux-Saga JavaScript code. Increased reliability through test coverage. Built scalable connection brokering using serverless Firebase cloud functions.