



# LUCAS FORSTER

## Software Developer

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## FULL-STACK WEB DEVELOPMENT

I'm interested in collaborating on:

- **web applications** for external (customer-facing) and internal use
- backend implementations, especially **cloud**-based solutions
- **modelizing** processes and records in strongly typed languages
- performance oriented, native **cross-platform** applications
- general **programming** tasks

## PAST PROJECTS

### Disaggregating Origin-Destination Matrices 2021

#### Implementations for my Bachelor Thesis

Given millions of conducted trips, construct individual day plans resulting in equal traffic flow. The solution is based on graph search.

[github.com/LucasForster/day-plans](https://github.com/LucasForster/day-plans)

Rust Java Big Data Performance PostgreSQL

### Boardgame Artificial Intelligence 2020

#### Programing Lab

Teams develop AIs that are continuously matched against another.

Java Heuristics Performance Competitiveness

### Blockchain for Education 2019

#### Fraunhofer FIT Cooperation Systems

Desktop client checking and displaying (sandboxing) file contents.

TS JS React Electron SCSS Cross-Platform

### Microcontroller Operating System 2019

#### Programming Lab

From electronic circuits to a light OS with scheduling and I/O.

C Atmel Studio Low-Level

### Open Mobility Platform 2018

#### Fraunhofer FIT Mobility Group

Front-end of a live-cooperation platform for specifying protocols.

[github.com/FIT-Mobility/interaction-protocol-suite](https://github.com/FIT-Mobility/interaction-protocol-suite)

TS XSD / XML React Redux MUI CSS-in-JS

## TECHNOLOGIES

**TypeScript (JavaScript)**  
Front- and Backend

Modern ECMAScript features (transpiled)

Deno / Node i18next GraphQL

**React**  
Modularized JSX Front-End

Function components with hooks

Sass / CSS Gatsby Electron

**Rust**  
Performant and Safe Implementation

Alternatively in Java or C / C++

## LANGUAGES

**German**  
First language

**English**  
Day-to-day in work and leisure

**French – DALF C1 (2014)**  
Grew up bilingual

## EDUCATION

### Computer Science (B.Sc.)

#### RWTH Aachen University

September 2021 Aachen

Thesis title: "Disaggregating Origin-Destination Matrices using Time-Progressive Graphs for Agent-Based Traffic Simulations"

RWTH Aachen is one of Germany's "Universities of Excellence".

### Abitur (High School Diploma)

#### Max-Planck-Gymnasium

June 2015 Saarlouis

Final exams: Mathematics, Computer Science, French, German, History