Enrique Barba Roque

enrique@ebarba.com | ebarba.com | https://github.com/enriquebarba97

EDUCATION

TU Delft — Delft, The Netherlands
PhD in Software Engineering - Green AI, Ongoing — *Sep. 2024 – September 2029 (expected)*

TU Delft — Delft, The Netherlands
Master's in Computer Science - Software Technologies, CGPA 8.5/10 — *Sep. 2022 – July. 2024*

University of Seville — Seville, Spain
Bachelor's in Computer Science - Software Engineering, Graduate with Honors, CGPA 9.31/10 — Sep. 2017 – Sep. 2021

TU Graz — Graz, Austria
Erasmus+ Program — *Sep. 2019 – Jun. 2020*

Conservatorio Cristóbal de Morales — Seville, Spain
Professional Intermediate-level Music Diploma, Specialization Cello, CGPA 8.5/10 — *Sep. 2009 – Jun. 2016*

EXPERIENCE

Part-time Fullstack Developer — October 2022 – March 2023
Rotate — *Utrecht, The Netherlands*
- Development from scratch of the new web application for analysis of air cargo capacities and revenues for airlines.
- Active participation in the design process, providing suggestions on UI decisions, and testing different frameworks and libraries to choose the one to use.
- Angular App with Fuse for user interface, and NestJS for an API used both by the frontend and customers of the company.
- Application deployed using Amazon Web Services: Amplify with Cognito for user management.
- Data integration with Databricks through headless BI tool CubeJS, and chart creation with Apache Echarts.

Full-time Junior Java Developer — September 2021 – August 2022
Ayesa Advanced Technologies — *Sevilla, Spain*
- Maintenance and development of enterprise applications for the Andalusian Statistics and Cartography Institute and Culture and Historic Conservation Agency.
- Worked in different teams of various sizes (2-7 people) in a Scrum environment. Multidisciplinar teams with analysts, architects, and developers.
- Position and responsibilities: Fullstack Java web development using Spring Framework and JSP with Thymeleaf or Angular. Development of new features, testing, updating documentation, and deliverables.
- Also worked on improving the quality of the different projects through refactoring and bug fixing. Around 30% of the code had to be fixed or redone, and multiple vital functionalities had to be developed. Successfully delivered numerous versions to the clients, all met with satisfaction on their end.

Student Research Assistant — September 2018 – June 2019
University of Seville — *Seville, Spain*
- Research into API Documentations to classify dependencies between parameters for a paper by a PhD student (https://personal.us.es/sergiosegura/files/papers/martinlopez19-icsoc.pdf). This experience eventually lead to my bachelor thesis in the subject, implementing automatic code generation for APIs considering these dependencies.

PROJECTS

Discovering energy inefficiencies in Docker through tracing | Master Thesis
- Research project on Sustainable Software Engineering (SSE) about the energy consumption of different Docker images
- Design a methodology to explain observed energy inefficiencies in Docker images, finding suboptimal implementations of core library functions
- Found previously unknown energy inefficiencies in the Alpine C standard library
- Presented our results in a KDE Eco community meeting to a panel of experts in SSE who agreed with the relevance of the results
- Link to thesis report

Automatic code generation for interparamenter dependencies in Web APIs | *Java, Open Source projects*
- Extend an open-source code generation tool that generates code that executes an API client or server, from API OAS specifications (OpenAPI Generator), that generates code that executes an API client or server, from API OAS specifications (OpenAPI Generator).
- The extension adds the automatic generation of code for interparameter dependencies, which are written using IDL (Interparameter Dependency Language), a DSL developed in the University of Seville
- This project led to a pull request into the main project and experience in different skills, like reading and understanding code from existing complex projects and contributing to Open Source projects
- https://github.com/OpenAPITools/openapi-generator/issues/8722
- Short-paper accepted for the SISTEDES conference in Spain, and a workshop paper in proceedings for the ICSOC 2022 conference.

Languages

English C2: Certificate of Proficency in English, Cambridge