

Ali Kaafarani

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Languages: Norwegian (mother tongue), English (fluent), Arabic (beginner)

Summary

I am an experienced software developer and IT operations engineer. As evident from my proven track record, I am able to apply my skills and pragmatic approach to software engineering to deliver value consistently. My motivation comes from seeing my output being useful to others, and I put a heavy emphasis on maintainability, predictability and a low-overhead development cycle to reach that goal. I thrive in teams which recognize that an effective work environment requires a balanced mix of both close collaboration and deep, focused work.

Experience

Chief Information Officer at Unseen Bio

February 2020 to present

Copenhagen, Denmark

Unseen Bio is a biotechnology startup which specializes in analyzing gut bacteria, providing personalized insight into the health and composition of your gut. We are 5 co-founders making an ambitious attempt to execute on a novel approach to the promising and rapidly advancing field of gut microbiome science.

Our product is an online interactive report, presenting complex gut microbiome analysis results in an understandable and user-friendly manner.

Product development

I was responsible for planning, development and maintenance of the entire technology stack for our online web services which our customers use to access their reports.

In order to visualize complex analysis results, I made use of specialized tools like D3.js and Vue to create appealing, understandable and intuitive representations of the underlying datasets. By paying special attention to UX details, I was able to build an intuitive and engaging user journey, without compromising on security to keep our customers' sensitive personal data safe.

I also led an effort to implement an effective internal localization workflow utilizing open source software exclusively. This allows us to provide fully translated versions of the product, free of external cost.

Infrastructure

Processing a single microbiome test takes typically 1-2 months, during which the sample will be shipped multiple times between us, the customer and our DNA sequencing lab in Germany.

- I developed a central processing system to keep track of all tests, their current status, and a complete timestamped history for each event.
- Integration with the bioinformatics pipeline and web services allows us to act automatically whenever important events occur on a test. For example, the customer's view will be updated and they will be notified by email to keep them informed and engaged throughout the process.

Server hardware

Our bioinformatics pipeline requires a substantial amount of processing power, and we decided early on to build an on-premise server for this purpose. Although I'm not strictly a hardware expert, I was able to pull on my experience from building stationary gaming computers to build a server to match the requirements of our bioinformaticians. The server was named Anton and he quickly became the mascot for any automated messages on Slack.

Software Engineer at Novo Nordisk Foundation Center for Biosustainability

December 2017 to February 2020

DTU, Lyngby Campus, Denmark

[DTU Biosustain](#) is an interdisciplinary research centre that develops new knowledge and technology to support the production of bio-chemicals using microbial production hosts called cell factories.

I was a senior developer and technical operations lead on [Caffeine](#), a unique web platform which brings computer-aided design into the realm of metabolic engineering.

The project was funded through the [EU Horizon 2020 programme](#), and I joined halfway into its 4 year duration. In the final phase of the project, we were invited to participate in the [Business Acceleration Academy program](#) of the [BioInnovation Institute](#) in Copenhagen, with the aim to develop a business plan and validate the future commercial potential of the product beyond its EU funding phase.

As part of a 5 person team (a product owner, two bioinformaticians and two software engineers), I quickly received responsibility for large aspects of the project, including:

- Major architectural and technical decisions
- Managing deployments, cluster operations and maintenance
- Database management and migrations
- Collaboration and coordination with third party library communities
- Encouraging code reviews, not only to ensure a high quality code base, but to facilitate knowledge sharing and internal mentoring
- Using automated testing to ensure high confidence in working software, without defining meaningless fixed requirements for test coverage
- Implementing tools for monitoring, logging and error reporting
- Fostering a culture of using metrics and statistics to gain insights into user behaviour, in order to make fact-based decisions
- Taking on a Scrum Master role to ensure a smooth running team that adheres to our interpretation of the Scrum principles

Systems Developer at The Norwegian Trekking Association

October 2011 to June 2017

Oslo, Norway

Den Norske Turistforening (DNT) is Norway's largest outdoor activity organisation with more than 300 000 members, which promotes trekking and mountain hiking, while preserving the Norwegian environment, nature and cultural values.

I was technical lead for the core web platform, Sherpa, which serves several functions:

- The central web site (www.dnt.no), serving well over a million unique users yearly
- Web sites for all 57 member associations, as well as cabin and campaign sites, amounting in more than 150 published sites
- Integrated content management and administration tools
- Membership services and integration with membership systems
- Data management for DNTs core data (cabins, trails and guided tours)

Being hired explicitly to start the Sherpa project, I was involved in every part from the initial planning and development, to maintenance, operations and user support, in addition to general maintenance on older systems which the new platform eventually would replace. My responsibilities, varying somewhat over the course of the project, include:

- Initial technology stack and architectural decisions
- Development, configuration and deployment
- Ensuring monitoring, error reporting, logging and system insights
- Analyzing, prioritizing and handling automated error reports and user reported issues
- Planning migration and data transition from older systems
- User testing and quality assurance
- Writing technical documentation, user guides and news bulletins
- Technical support for users within the organization

Education

B.E. Computer Science at Narvik University College

2006 - 2009, Narvik, Norway

- Final-year project: In a group of 3 students, we developed **KSAT Direct Readout**, a web application for [Kongsberg Satellite Services](#) for processing, storing and presenting satellite data generated by [NASAs IPOPP software](#).
- During August-December 2008 I was a student assistant, supervising workshops and responsible for grading deliveries in the course *IGR1514 Grunnleggende data*, an inter-disciplinary introductory course to programming in XHTML/CSS.
- I contributed to various software projects alongside my studies, including [the computing society's Java IRC bot](#).