

## Mikkel Storgaard Knudsen

### Lead Software Engineer

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### Summary

Experienced software developer with a passion for problem-solving, who finds a great satisfaction in writing modular, testable and *readable* code. I have a strong belief in the mantra "You are only as good as your tools", and a decade of experience writing type-safe, stateless functional programs.

I believe in failing fast, and would rather deal with a hundred annoying compile-time errors than serving any embarrassing runtime error in front of my users.

I am a team player to the core, and as a lead, I find that the training and mentoring of my developers is a core part of job. Likewise, I myself thoroughly enjoy working together with more experienced people who I can learn from as well. I especially thrive with cross-team work – something I benefit from greatly in my current position at Studies&Me, where I work together with medical specialists, UX designers and data scientists to make clinical studies accessible for interested participants all over the globe.

### Experience

#### Software Engineer II at Zendesk (Explore)

(September 2022 – May 2025)

At Zendesk, I was part of team *Perseverance* – the team responsible for Explore's backend query compilation- and execution engine. For context: Explore is Zendesk's analytics application. It allows data owners to generate complete reports over their entire data collection, through simple drag-and-drop interfaces.

Besides the usual day-to-day operations and feature additions, my role in Perseverance regularly included

- Complex bug investigations, often spanning across multiple services and production environments, and sometimes lasting multiple days.
- Frequent collaboration on shared projects with other dev teams within the org.
- Training new members of the team.
- Technical presentations on Explore's internal town hall meetings

Furthermore, I've been a part of Explore's on-call rotation since January 2024

**Three highlights of my time contributions to Zendesk Explore:** - Co-authored the advanced type checking in Explore's custom formula language BIME - Authored advanced syntax checker/error reporter to BIME - Sole responsible for designing and implementing mission critical

#### Lead Engineer of Decentralized Clinicals Trials at Studies&Me

(September 2020 – June 2022)

##### Technical responsibilities- and achievements

- The design and implementation of Studies&Me's own cross-platform DCT whitelabel app.  
**Dart, Flutter, Drift/SQLite3**, plus **Kotlin** and **Swift** for native modules and external integrations
- Design/implementation of the backend server for the above-mentioned app.  
**Scala 2, Amazon Web Services (Lambda, Elastic Beanstalk, Elastic Container Registry, S3, Secrets Manager)**
- Directing/implementing the tests for both the app and the backend.  
**Integration- and unit tests (including mock- and property based testing)**
- Primary responsible for continuous integration- and deployment of both app and server.  
**CircleCI/GitHub**, automated building- and App Store deployment using **Fastlane**

- Screening, interviewing and hiring new developers for Studies&Me, as well as leading and managing a team of six developers.

During our collaboration with SnaploT (April 2020 – September 2021), I furthermore

- Reverse engineered SnaploT's closed-source SDK, providing our developers with missing tools (such as a debug console), and adding missing (but trial-critical) features to the SnaploT's existing framework.
- Designing and implemented a template-based framework in SnaploT's existing toolset, separating trial content (i.e. questionnaires, onboarding flows) from app code, greatly reducing the amount of hardcoded app screens and enabling code reuse.
- Trained SnaploT's own in-house developers in using the framework mentioned above.

*(Cont'd)*

### Stakeholder responsibilities

As Lead Engineer, I have regularly represented Studies&Me in stakeholder meetings across almost all aspects of our DCT developments, in meetings such as

- Specification/planning meetings with project owners- and data science leads from study sponsors such as LEO Pharma and Novo Nordisk.
- Specification/planning meetings with various vendors and suppliers such as Klifo, 4G Clinical and Withings.
- Virtual- and on-site meetings with close collaborator SMART-TRIAL, for planning and designing new features for their main Electronic Data Capture platform.

### In-house responsibilities

- Member of Studies&Me's Environment, Health & Safety group, partaking in workplace assessments (*Arbejdsvurdering*) evaluations, and designing and implementing action plans for alleviating identified issues. I have also taken and completed the mandatory *Arbejdsmiljøuddannelse*.
- Together with our compliance department, I have been responsible for
  - Designing our GAMP5-based Quality Management System (QMS), ensuring that our software development is auditable, and that products are validated and proven to follow the international *Good Clinical Practice* guidelines. The QMS been audited by both Klifo and MedicQA.
  - Implementing above-mentioned QMS in tools including **Confluence**, **TestRail** and **Jira**.
- Responsible for administrating business-critical services such as Google Workspace (Mail, Drive, Groups, etc.), Slack and 1Password.

### Experience, continued

#### Software developer at Studies&Me (March 2020 – August 2020)

- Responsible for continued Studies&Me backend development, -design and maintenance, including tasks in database design and development operations  
**Scala 2, MySQL, GraphQL, CircleCI, various AWS services**
- Quickly transitioned to focus full time on Decentralized Clinical Trials

#### Software developer in Business Intelligence at Abacus Medicine (August 2019 – March 2020)

- Main feature developer on in-house *assisted decision-making* trading platform.  
**OCaml, C#, T-SQL, Docker, Azure, Jira, Bitbucket**
- Tasks included include front- and backend design, testing and implementation, and tasks in our continuous integration and -deployment pipeline.
- Weekly meetings with internal stakeholders and developers, collaborating on resolving design problems, prioritizing new features, and roadmapping.

#### Backend developer at June by Danske Bank (March 2017 – February 2019)

- Primary responsible for designing and implementing a new image recognition engine for verifying customer identity documents during onboarding, in alignment with Danske Bank's *Know Your Customer* principles. I raised the accuracy from 56% to ~92%, compared to their existing solution.  
**Python2, OpenCV, Tesseract OCR, Docker**
- Part of the feature development team in June, with responsibilities in software implementation, code reviews, sprint planning and ticket grooming sessions.  
**C#, Docker, Microsoft SQL Server**

#### Full-stack Junior Consultant at Eksponent (March 2016 – March 2017)

- Design-, development- and deployment responsibilities for client projects, as well as tool development for internal usage.  
**C#, JavaScript, Microsoft SQL Server**

- Design- and planning meetings with clients such as Styrelsen for Patientsikkerhed, Københavns Kommune, and others.

#### **Teaching Assistant at The University of Copenhagen** (*September 2017 – November 2017*)

- Teaching assistant on the *Advanced Programming* master's course. Tasks included preparing and hosting weekly lab sessions, correcting and grading assignments, and assisting in grading the course's final exam submissions.

Haskell, Prolog, Erlang

### **Education**

#### **MSc in Computer Science at The University of Copenhagen** (*2016 – 2019*)

- Study programme focused on compiler design, semantics and types and formal logic, and on parallel programming, including GPGPU programming in CUDA/C++.
- Projects included assisting a Ph.D. student in Physics in rewriting a complex three-dimensional microbiological simulation from a sequentially executed model to a parallel GPU-powered ditto, vastly increasing computational times while decreasing code complexity.
- For my thesis *FShark: Futhark programming in FSharp*, my two biggest contributions was the design and implementation of a C# backend for the Futhark compiler, and the design and implementation of an F#-to-Futhark transpiler. The C# backend became part of the official Futhark compiler, but was since deprecated as there was little demand for maintaining the .NET-libraries.
- My project was graded 12 (*A on the intl. ECTS scale*) at the thesis defense.

#### **BSc in Computer Science at The University of Copenhagen** (*2012 – 2016*)

- Bachelor's thesis: Extending the Futhark programming language with working type aliases, as well as describing an implementation of ML-style higher-order modules for Futhark.

#### **General Certificate of Secondary Education (STX) at Viborg Gymnasium & HF** (*class of 2010*)

- English, mathematics and social sciences

### **Other experience**

- Board member in the student-driven *Kantinen* at UCPH (2013 – 2018)  
Tasks included for daily maintenance, event planning- and execution, keeping inventory and placing weekly orders with B2B wholesalers like Sjøbeck, Carlsberg and Sugro.
- Member of *DIKUrevy* at UCPH (2013 – 2019)  
Writing/directing sketches and songs, on-stage performances in front of large (400+) audiences, event- and party-planning, plus two years as co-chair of the organization.
- Board member in *BLUS* (Copenhagen's LGBT+ Student Association) (2012 – 2015)  
Tasks included planning and hosting parties and weekly events at *Huset i Magstræde*, and collaborations with peer organizations.

### **About me**

On a more personal level, I see myself as an outgoing and open-minded individual. I care a lot about the environment around me and others, and I involve myself in my workplace's culture. I like social events, and consistently volunteer myself in planning committies whether it's for the occational Friday bar, or the large annual company-wide parties. I rarely decline a challenge – especially not if it's within my interests. Case in point, I applied for Mensa's admission test in 2021 on a dare, and passed with flying colors.

I have an undying love for music, and love the Copenhagen nightlife. I have DJ'ed for several years, and love clubbing, going to concerts, to the cinema, or just about any other kind of show. In my remaining spare time, I play a bit of bass. I play badminton twice a week, and enjoy cooking on a hobby level.