LELAND JANSEN

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BSc Software Engineering
University of Alberta

EMPLOYMENT

Snap Inc. · **Software Engineer** · **Client Startup Performance**   **September 2022 – Present**
- Engineer on Snapchat's iOS client focusing on app startup performance.

www.lelandjansen.com/snap | C++, Objective-C, Cocoa Touch

Microsoft · **Software Engineer** · **Outlook Mobile**   **July 2019 – August 2022**
- Worked on Outlook's iOS client focusing on app performance and contact sync reliability. Shipped features and performance improvements that impact **hundreds of millions of customers**.
- Pioneered **Spoor** (described below), a low-level toolchain to produce and analyze exhaustive app traces for performance debugging. Spoor is used by several teams at Microsoft who used it to **reduce Outlook's boot time by 32%.**
- Owned the Contacts experience including the in-app address book and device sync infrastructure with a focus on native sync speed and reliability against challenging system APIs.
- Shipped the Contact Segregation and Personal-to-Work MailTips features in collaboration with the product and design teams. These features enable new users to adopt Outlook Mobile in their regulated industries resulting in a **2% growth** in monthly active users.

www.lelandjansen.com/microsoft | C++, Swift, Python, Cocoa Touch

Apple · **Software Engineering Intern** · **Input and Intelligence**   **May – December 2018**
- Developed the **system-wide** Intelligent Text Selection feature that shipped to **1B+ customers** in iOS 13. Responsible for the frontend and backend logic. Presented feature to Apple's SVP Software.
- Researched machine learning techniques to detect **QuickPath** (swipe typing) inflection points. Developed an **end-to-end pipeline** including the tooling, implementation, and evaluation.

www.lelandjansen.com/apple | Objective-C, C++, Python, Cocoa, Cocoa Touch

Google · **Software Engineering Intern** · **AdsCrawl**   **May – August 2017**
- Developed the Lightbulb RPC sharding service from **start-to-finish** in three months including its design, implementation, testing, and deployment. Processes on the order of **100k requests/second**.
- Lightbulb reduced service request rejections by **6.1x** and compressed the standard deviation by **5.0x**. Allows the upstream service task count to scale without disproportionally increasing rejections.

www.lelandjansen.com/google | C++, Google Test, Stubby (gRPC), Python

Zaber · **Software Developer Intern** · **Firmware and Electronics**   **January – April 2017**
Shopify · **Software Developer Intern** · **Production Engineering**   **May – August 2016**

PROJECTS

Spoor · **Compiler-assisted app instrumentation**
- Greenfielded a toolchain that reduces the time to detection of performance bugs and opportunities **from several hours to ~10 minutes**. This is achieved by automatically instrumenting source code at compile-time to generate an exhaustive app trace at runtime.
- Using Spoor the team **reduced Outlook's boot time by 32%** and **increased the scrolling framerate** of several app components.
- Independently developed the project from **end-to-end** including the architecture, build system and tooling, runtime engine, compiler instrumentation, integration, and post-processing tools.
- Implemented a highly configurable buffer system that enables the runtime engine to scale from consumer mobile devices to high-end server hardware by optimizing dynamic allocations and minimizing heap fragmentation.

www.spoor.dev | *github.com/microsoft/spoor* | C++, LLVM, Bazel, Python, Perfetto, Google Test

TickTickTick · **Messaging app remote code execution**
- Lead a team of five to develop a Slack plugin that remotely executes code snippets.
- Awarded **$10,000** from Slack for feature innovation.

COMPLEMENTARY SKILLS
- Dedicated CrossFit athlete (2013 – present) training **6 days/week**.
- Composer and level 8 pianist with **first-class honors** (Royal Conservatory of Music).
- Avid scuba diver holding my **Rescue Diver**, Drysuit, and Enriched Air certifications.