

# Jokūbas Dargis

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*A super-curious software engineer who loves crafting code and user experiences through empathic design and creative problem solving. Always a pragmatic doer and a perfectionist at the same time.*

## Experience

### **Staff Software Engineer at Snap** - July 2016 – October 2023

2772 Donald Douglas Loop N, Santa Monica, CA 90405, USA

Designed and developed the initial version of the "[World AR](#)" lenses, also known as filters, which use a variety of mobile device sensors and computer vision and audio processing techniques to deliver engaging augmented reality experiences to millions of users.

As part of the new [Lens Studio](#) project, I led the development of the "push to device" feature, which allows users to pair their devices with Lens Studio for real-time testing of their work-in-progress lenses. This feature provides secure updates over the user's local network, as well as a remote backend flow for added reliability.

In an effort to improve the quality of the lenses feature in the Snapchat app, I designed and implemented a new Android client automation testing framework that is capable of running thousands of tests in parallel on the in-house device testing lab. As a result, testing for all features in the Snapchat Android app was migrated to the new framework, running tests on every code change and significantly improving the reliability and quality of the code with much less manual QA testing.

As part of the company-wide Snapchat Android app rewrite project, I led a team to rewrite all AR (lens) related features into a new, reactive foundation that enabled us to quickly develop many new features thanks to the increased modularity. The same components we designed and developed for the main Snapchat Android app were also used to develop the new [Camera Kit SDK](#).

I bootstrapped and led a team to develop the Camera Kit Android SDK based on the modular AR (lens) components and successfully shipped it to partners of various sizes, including [Google](#) and [Samsung](#). I also designed a dynamic loading solution that allows the Camera Kit SDK to be published and updated on the [Google Play Store](#) independently of the OEM hardware/software release cycles.

**Focus:** AR product innovation, Android, automation and testing, build tools, library and API design.

### **Software Engineer at Snapchat** - Mar 2016 – July 2016

30a Vyner Street, E2 9DQ, London, UK

Prototyping new user experiences involving 3D graphics, including experiences that require visual understanding of the scene. Investigating and solving challenges in image recognition, classification, augmented and virtual reality. Working with internal teams and other designers to test prototypes in real world scenarios, while taking in feedback and iterating.

Cross platform computer vision library development, integration and support as well as designing, developing, deploying and documenting features and integrating 3rd party and internal APIs.

### **Software Engineer at Obvious Engineering** - Mar 2014 – Mar 2016 (2 years)

30a Vyner Street, E2 9DQ, London, UK

Designed and developed the [Seene Android app](#), overseeing all aspects of building a successful Android app from prototyping to publishing. Following the Android platform design guidelines (Material Design) and striving for the best UX, the app has been well-received by users and industry critics. It was also featured for its excellence in mobile VR by the Google Cardboard team during Google I/O 2015.

Developed libraries that integrate the Android camera and graphics frameworks with the core Obvious Engineering CV pipeline. Provided and supported libraries to third-party developers to help them implement face scanning features in their Android apps.

Explored uses of Seene's user-generated 3D content in immersive VR experiences. Prototyped a social VR game and 3D photography visualisation concepts using Unity3D.

Designed, implemented, and scaled the web front-end service for the Seene platform. The service was designed as an independent Node.js server application that consumes Seene's REST API, transforming it for the browser client based on Angular.js. The implementation of the browser app involved building a mobile-friendly WebGL 3D model viewer that can be easily embedded on third-party websites. The web client was optimized for various desktop and mobile browsers, as well as various search and social network crawlers, to facilitate organic growth through sharing Seene's user-generated content.

Developed a microservice that renders Seene's 3D content as web-optimized videos and animated GIFs on AWS GPU instances. The service was deployed as a dynamic proxy for clients where WebGL was not available (mobile, social networks). Additionally, built an image resizing microservice to proxy all Seene platform images to the web, iOS, and Android clients.

**Focus:** Android, product design, AR/VR, prototyping, web front-end, REST API server + client, microservices, devops, scaling & cloud infrastructure.

### **Software Engineer at HarmonyPark** - Dec 2012 – Mar 2014 (1.5 years)

8 Orsman Road, N1 5QJ, London, UK

Developed a mobile AR prototype application using the Obvious Engine natural-feature tracking SDK for retail marketing at McDonald's restaurants.

Led the front-end development of Mixshape.ie, an intelligent music playlist creation service sponsored by Microsoft. Worked closely with the design team to explore various music visualisation approaches using web technologies, from Canvas to WebGL. Architected the client as a single-page Backbone.js app that integrated with a REST API. The app featured easy integration with the Spotify platform and showcased Internet Explorer 10 as a modern browser.

Redesigned and built a responsive marketing website for HarmonyPark. While augmenting the site with a Backbone.js-based server-side rendering framework, implemented a mini social link aggregator and a newsletter driven by HarmonyPark employees.

Prototyped various digital experiential marketing concepts for clients.

**Focus:** mobile AR, web front-end, product design, prototyping, REST API clients.

### **Independent music producer, Eleven Tigers** - 2006 May – Dec 2012 (6 years)

267b Wick Road, E9 5DG, London, UK

Independently released a full-length live album '111' - a result of a crowdfunded and collaborative campaign.

Produced music and artwork for a physical/digital album 'Clouds are Mountains' recognized by Mary Anne Hobbs on BBC Radio 1.

Employed visual programming tools to develop unique sound synthesis & sampling applications.

Developed a broad understanding and practical use of small to medium sound studios and live music set-ups throughout various projects completed while at university and as a touring musician.

**Focus:** music production, experimental sound synthesis, DSP, live music performance, marketing.

## Education

**2:1 BA(Hons) Music Technology Specialist** - Sep 2008 – Jun 2011

University of West London, UK

## Skills

Android SDK/NDK, Kotlin, Java, Groovy, Gradle, Maven, C++, C#, Javascript (Node.js), HTML, CSS, git, Unity3D, Max/MSP, PureData, TDD, Arduino, Linux, GCE/AWS.

## Interests

Exploring life through sounds, music and moving images. Drama/performance art (attended a theatre studio for 15 years). Woodworking. Swing dancing. Rock climbing. Cycling. FOSS. Indie video games.