



Applied Machine Learning

Info Meeting - July 17, 1pm (01.10.011)



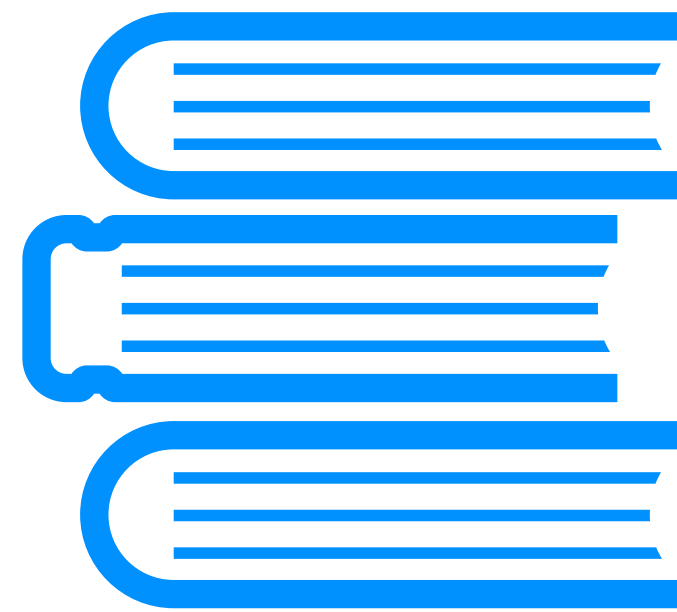
Paul Schmiedmayer

Goals

- Learn about **research techniques** and **best practices** when developing applications that use machine learning-based algorithms.
- Get familiar with tools and frameworks like **Turi Create, TensorFlow, Keras, and Create ML**
- Explore new approaches to ML tools like **Swift for TensorFlow**
- Focus on **sustainability** and **privacy** in the context of machine learning



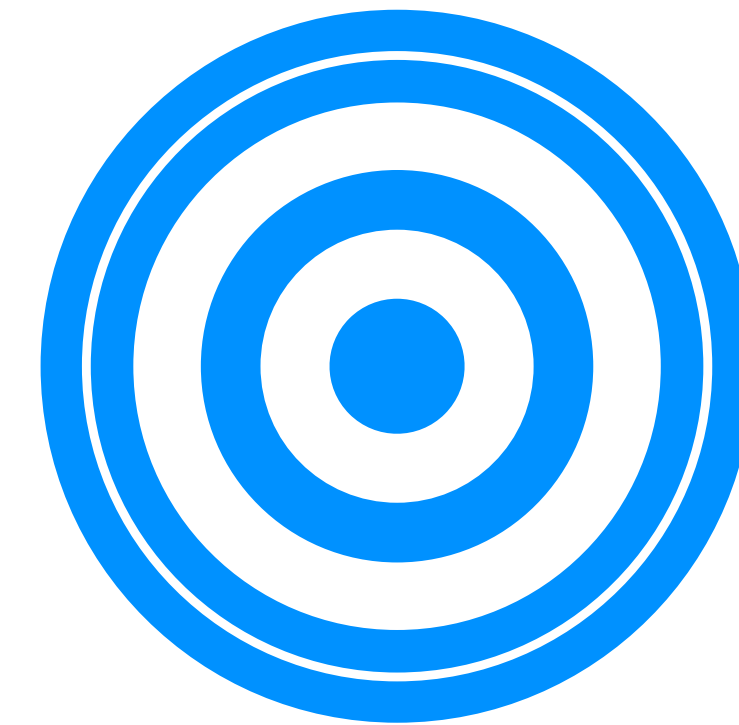
Literature Research & Problem Definition



**Conduct Literature
Research**



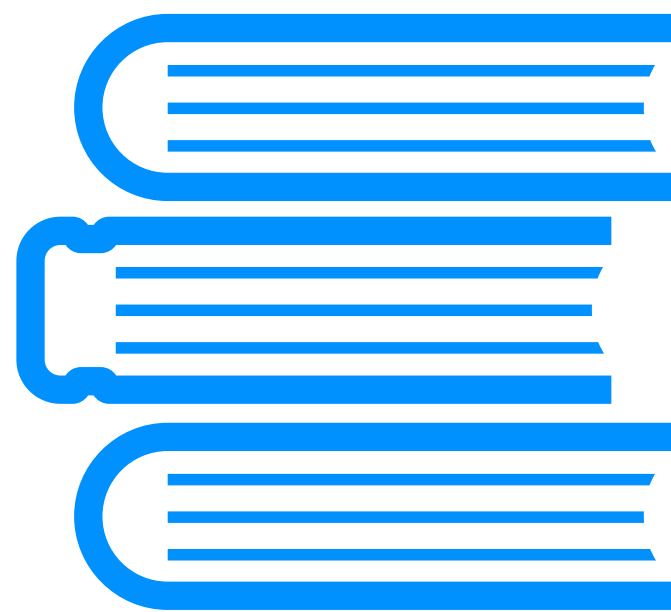
**Evaluate
Approaches**



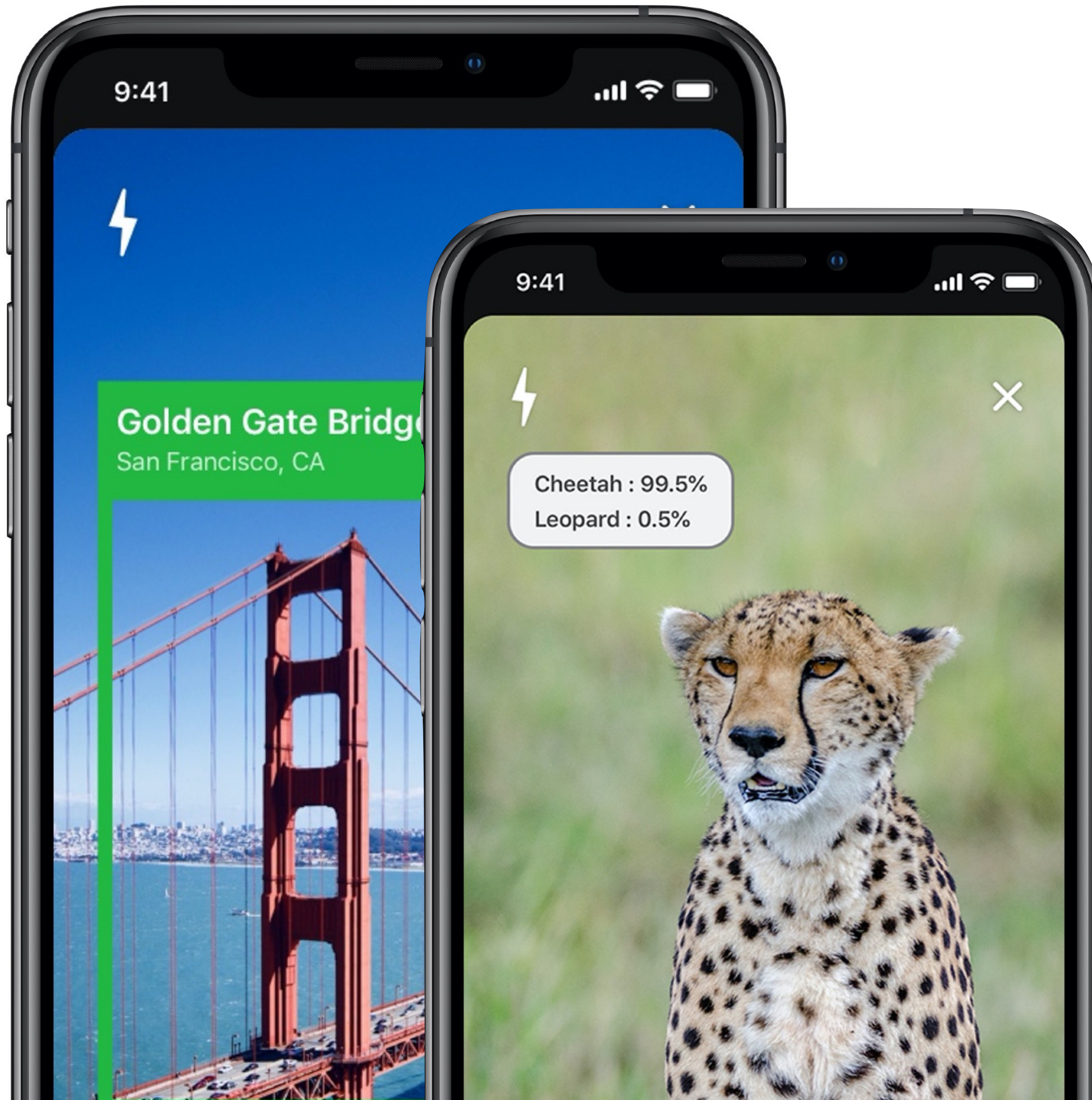
**Define your Area
of Interest**

Concept Creation

- Summarize your literature research
- Create a concept how to
 - Conduct your research based on the research you have found
 - Build a prototype showcasing your research



Prototype Creation



- Create a prototype that incorporates your research and showcases a possible solution
- This could be an:
 - Application
 - Website / Server
 - Framework / Tool
 - Notebook / Playground

Final Report & Final Presentation

- **Seminar Report** (about 6 pages + bibliography)
 - Summarizes your literature research and related work
 - Showcases your proposed solution and prototype
 - Details possible future work
- **Seminar Conference:**
 - Peer review a small number of your fellow students' reports and provide feedback
 - Incorporate that feedback before the final presentation

Important Dates



- **Oct 21 (all day):** Kickoff Day
- **Tuesday, 1pm - 2:30pm:** Seminar Meeting
- **Nov 19, 12pm - 4pm:** Concept Review
- **Jan 19, 11:59pm:** Report Submission
- **Jan 26, 11:59pm:** Report Review Deadline
- **Feb 4, 12pm - 4pm:** Final Presentation

Kickoff & Guest Lectures

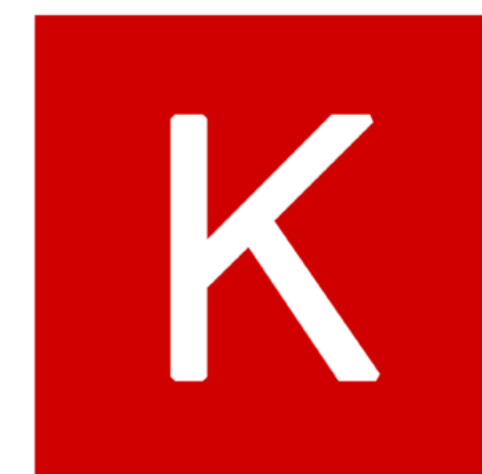
ML Applications in Wearables



Medical Applications



TensorFlow

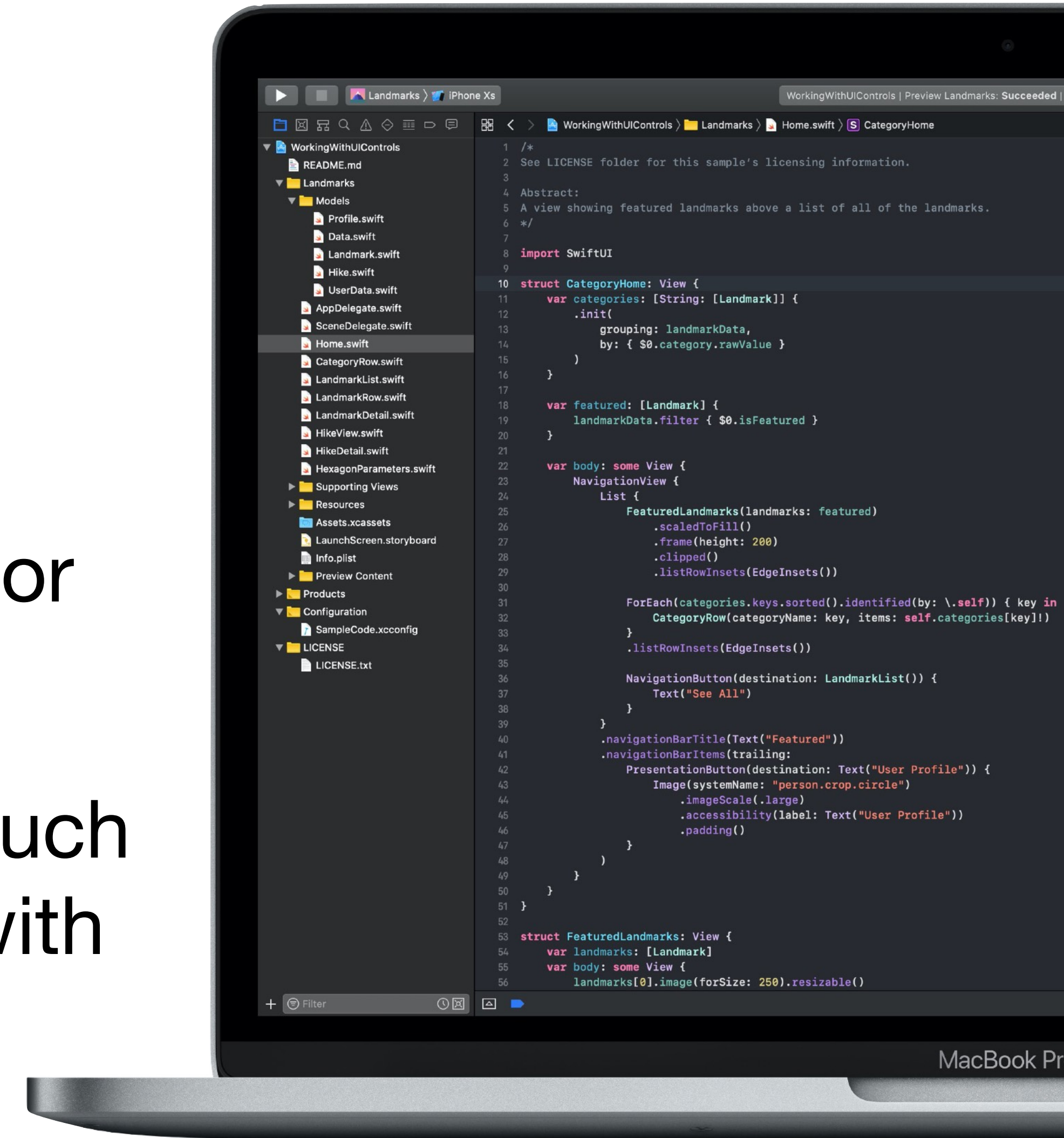


Keras

ML in Development Tools

Prerequisites

- Experience with standard programming paradigms such as object-oriented programming and functional programming
- Experience in one or more of the following programming languages: Swift, Python, C or C++
- An introductory machine learning course such as Machine Learning (IN2064) or worked with a ML library as part of a project



Grading



- **Seminar Report: 40%**
- **Prototype: 25%**
- **Presentation: 20%**
- **Peer Review: 15%**

Additional Requirements to pass the course: Attendance & participation in all seminar meetings

Application Process

1

Fill out the form at ase.in.tum.de/appliedML
Due: July 24, 11:59pm

2

Log in to the [matching system](#) and make sure to prioritize the Applied Machine Learning Seminar
Between: July 19 - July 24, 11:59pm

3

Check if you have been matched to the seminar
From: July 30

Contact & Information



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Applied ML Seminar

ase.in.tum.de/appliedML