

# SEBASTIAN COATES

Graduating May 2020

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🌐 sebastiancoat.es

## WORK EXPERIENCE

### Software Engineering Intern (Apple Watch)

Apple

📅 06/2019 - 08/2019 📍 Cupertino, CA

- Developed prototype for new Apple Watch feature, utilizing machine learning for enhanced user experience.
- Generalized project as framework to be integrated with other features.
- Presented work to VP and other members of the Watch organization.

### Research Assistant in Network Science / ML

Tufts University

📅 09/2019 - Ongoing 📍 Medford, MA

- I apply community detection algorithms and other novel approaches to derive insights from high-dimensional, spatiotemporal networks (US Commuting networks over long time scales).
- I will co-author articles for publication in peer-reviewed journals and conferences, as well as present research results in project meetings and workshops.

### Software Engineering Intern

Vertex Pharmaceuticals

📅 06/2018 - 08/2018 📍 Boston, MA

- Developed full-stack decentralized web application for clinical trial processes, using Ethereum, Solidity, Nodejs, and MySQL.
- Prepared 4-hour presentation for company CIO and other department representatives to explain Blockchain technology and its applications.

## PROJECTS

### Neural Mutual Information Model

📍 University of Oxford

- Developed a novel deep neural network architecture, providing enhanced interpretability and significantly faster training than traditional models.
- Received first-class honors in graduate-level course for the corresponding research paper. (PDF available upon request).

### Music Information Retrieval

🌐 <https://github.com/sebasscoates/graphmir>

A graph-based approach to music information retrieval.

- Enabled 98% accuracy in binary genre classification and 92% accuracy in binary artist classification (same genre).
- Wrote formal paper analyzing the full project, included in GitHub.

## EDUCATION

### B.S. Computer Science, Math

Tufts University School of Engineering

📅 09/2016 - 05/2020

GPA

3.96 / 4.00

### Visiting Student in Mathematics

University of Oxford

📅 10/2018 - 06/2019 📍 Oxford, England

## RELEVANT COURSES

Machine Learning

Deep Learning

Algorithms & Data Structures

Web

Machine Structure & Assembly

Linear Algebra

Information Theory

Network Science

Graph Algorithms

Mathematical Modeling

Statistics

## LANGUAGES

C

Python

Javascript

Objective C