

# Wolfgang Beyer

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## Experience

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### Facebook

London, UK

SOFTWARE ENGINEERING INTERN

Jan. 2018 - Mar. 2018

- Building a customer support chatbot to interact with users who have posted content, which has been removed from the site.
- Allows the users to appeal the content takedown decision, informs about the rules for posting content, and collects user feedback.

### Catalysts GmbH

Vienna, Austria

SOFTWARE DEVELOPER

Aug. 2017 - Dez. 2017

- Data Science Team: parsed and analyzed weather, traffic, and location data (with Python and Pandas).
- Java Development: member of the development team building a cloud-based car-dealership-management-system for the Volkswagen group.

### Computational Genomics Laboratory - University of California Santa Cruz

Remotely from Vienna, Austria

SOFTWARE DEVELOPER

Mar. 2017 - Dec. 2017

- Developed "Sequence Tube Maps", a JavaScript module to visualize genomic sequence graph data structures, which cannot be displayed by existing genome browsers.
- Built a web application to interactively query and visualize existing genomic variation graphs.

### Computational Genomics Laboratory - University of California Santa Cruz

Santa Cruz, USA

VISITING RESEARCHER/DEVELOPER

Nov. 2016 - Jan. 2017

- Continued development of "Sequence Tube Maps" in cooperation with the graph genomes group.

### EMBL - European Bioinformatics Institute (Cambridge)

Remotely from Vienna, Austria

GOOGLE SUMMER OF CODE INTERN

May 2016 - Aug. 2016

- Started development of "Sequence Tube Maps".
- Developed an algorithm which generates clearly laid out representations of complex datasets and which scales well to bigger inputs.

### Roche Diagnostics

Vienna, Austria

PRODUCT MANAGER, LABORATORY MANAGER, SYSTEMS SPECIALIST

Aug. 2012 - Apr. 2016

- Achieved a tender winrate of more than 70% (compared to a market share of 50%) by coordinating efforts to offer competitive tailor-made solutions.
- Designed solution for Austria's biggest private diagnostic laboratory allowing analysis of up to 200% more samples while keeping turnaround times constant.
- Accompanied implementation of new laboratory for Austria's biggest hospital, reducing turnaround time by 40%.
- Created various tools for the automatic analysis of laboratory equipment log files which allow pinpointing bottlenecks to improve workflow processes.

### Self-Employed

PROFESSIONAL ONLINE POKER PLAYER

2010 - 2012

- Applied mathematical (probability theory, statistics, game theory) and psychological skills.
- Proved ability to make rational decisions under high pressure.

## Education

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### Software and Information Engineering, BS course, did not graduate, GPA 4.0

Vienna, Austria

TECHNICAL UNIVERSITY OF VIENNA

Mar. 2016 - Jun. 2017

- Focus on general coding and algorithmic skills

### Molecular Biology, MS, GPA 4.0

Vienna, Austria

UNIVERSITY OF VIENNA

Oct. 2003 - Nov. 2010

- Thesis: "RNA Secondary Structure Prediction including Pseudoknots": Collaborated on the development of a novel algorithm with fewer restrictions than previous ones. Code is part of the "ViennaRNA Package" which is being used worldwide for computational RNA biology research. Written in C.
- Majors: Bioinformatics, Structural Biology, Genetics

## Exchange Semester and Research Internship

UNIVERSIDADE NOVA DE LISBOA AND INESC-ID

Lisbon, Portugal

Jan. 2007 - Jul. 2007

- Evaluated models to estimate parameters for metabolic networks based on time series data of metabolite concentrations (poster accepted at the German Conference of Bioinformatics 2007).

## Business Management and Administration, MA, GPA 3.5

VIENNA UNIVERSITY OF ECONOMICS AND BUSINESS ADMINISTRATION

Vienna, Austria

Oct. 1999 - Jun. 2004

- Thesis: "The Quadrature Method in Comparison with Other Methods for Valuing Barrier Options": Implemented various pricing models for exotic options and evaluated their performance.
- Majors: Business Management and Controlling, Finance

## Exchange Semester

UNIVERSITY OF TECHNOLOGY SYDNEY

Sydney, Australia

Jan. 2002 - Jul. 2002

# Projects

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## Sequence Tube Maps

[www.github.com/wolfib/sequenceTubeMap](http://www.github.com/wolfib/sequenceTubeMap)

- A JavaScript module for the visualization of genomic sequence graphs which automatically creates a "tube map"-like visualization of a given sequence graph.
- In addition to nodes and edges, sequence graphs contain the notion of paths and can therefore not be properly displayed by standard graph visualization tools. Developed a custom algorithm which lays out the graph's components and generates a visualization which displays the relevant information in an intuitive way.

## Tutorial for Image Recognition with Tensorflow

[www.wolfib.com/Image-Recognition-Intro-Part-1](http://www.wolfib.com/Image-Recognition-Intro-Part-1)

- Teaches the principles of image recognition via practical examples in TensorFlow. Intended audience are people with some programming experience, but no prior machine learning knowledge.
- Has been published by freeCodeCamp, one of the biggest publications on medium.com with almost 200k followers.

## AI Agent for Deuce to Seven Heads Up Poker

[www.playmybot.com](http://www.playmybot.com)

- Developed an application which uses Counterfactual Regret Minimization to determine a strategy for playing Deuce to Seven Heads Up Poker. This is to my knowledge the only (public) AI for this poker variant.
- The strength of the AI strategy is comparable to human level players according to my preliminary testing.
- Built a web application in Node.js to allow anyone to play against the AI and to gather feedback about its competitiveness.
- Currently preparing to publish the code under an open source licence.

# Language Skills

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**Programming Languages** Java, JavaScript, Python, HTML, CSS

**Natural Languages** German (native speaker), English (fluent)

# Hobbies, Interests and Achievements

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**Scout Leader** Organized domestic and international camps for dozens of participants  
Supported a local NGO in accomodating asylum seeking families

**Mountain and Water Sports** Hiking, Vie Ferrate, Rock Climbing, Surfing, Kite Surfing

**Competitive Coding** Google Hash Code 2017: Top 6% (143 out of 2815)  
Catalysts Coding Contest 2017: Top 3% (31 out of 1499)

**Mathematics** Participated in the International Mathematical Olympiad 1998 in Taiwan  
(5<sup>th</sup> place in the Austrian nationals)