

Robert Knowles

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WORK EXPERIENCE

Allen Institute for Artificial Intelligence Engineering Intern

2021

Seattle, United States

- Worked on the **Semantic Scholar** project, where I designed and fully implemented a **Spark** batch job which calculates statistics and influence for all **75 million** authors in the corpus.
- The batch job would parse through **200 million** papers and **2.4 billion** citations while it ran on **AWS EMR**. The new system processed events **20x faster** than the previous system.

EDUCATION

University of Waterloo Bachelors of Computer Science

Class of 2025
Waterloo, Canada

- GPA: 3.98**. Taking classes in combinatorics, object oriented programming and algorithms.
- Teachers assistant for Honors Calculus 2, responsible for over **180** students.
- Awarded the President's Scholarship of Distinction for excellent academic standing.

VOLUNTEER EXPERIENCE

World Affairs Conference Head of Technology

2016-2020
Toronto, Canada

- Developed an online registration site with **Javascript and Firebase**. It was used to register over **600** high school/university students annually from all across the GTA.
- Created the scheduling software in **C++**, designed and organized a design sprint of 50 students, and managed a team of over 10 developers to improve the organization's site.

PROJECTS

UofTHacks VII // CredID

2020

- Built a web application that uses computer vision to create digital identities (verified on the **Ethereum Blockchain**) for the 1.7 billion people without an identity, so they can bank online.
- Made using **AWS Rekognition/S3, Node, Express, JS**. Won: **Best Use of Tech for Good**.

Oxford Hacks // Safeway

2020

- Used traffic histograms and routing software to generate the safest path (time of day and route) in order to travel on public transit during the coronavirus pandemic.
- Made using **HERE Technologie's APIs, Node, Express, JS**. Won: **Best Use of HERE APIs**

SKILLS

Languages // C, C++, Python, Java, Javascript, Scala

Frameworks // Node/Express, Spark, AWS, Firebase, REST, Django

Other // Git, Docker, Arduino, MPI, OpenMP, NLTK

AWARDS

Hackathon Prizes //

HackMerced	(1x Winner)	2020
NW Hacks	(1x Winner)	2020
Oxford Hacks	(1x Winner)	2020
UofT Hacks 7	(2x Winner)	2020
JamHacks 2	(1x Winner)	2018

Coding Competitions //

ECOO Provincial Finalist	2020
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Sport Competitions //

OFSAA 1st (Swim)	2018
CISAA 6th (X-Country)	2017