

# Internship ING4 Report

Harvard University

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# 1 Acknowledgement

## 2 Introduction

## 3 History

### 3.1 Harvard University

Harvard university is the most ancient university of the United States. It's located in Cambridge, Massachusetts, in Boston's suburb. It has been created in 1636 by vote of the Court of the Massachusetts Bay Colony. The school was name *Harvard College* in 1639, in homage to John Harvard, who had left the school livre 779 and his library of some 400 books. John Harvard was the first donor to the school.

During the following decades, Harvard University never ceased to grow up and it's now the richest University in the world with \$36.4 billion of endowment.

Harvard university include several universities, here is a list of the most important ones:



Harvard seal

- Faculty of Arts and Sciences composed by
  - Harvard College
  - Continuing Education
  - Graduate School of Arts and Sciences
  - Harvard John A. Paulson School of Engineering and Applied Sciences
- Business School
- Kennedy School of Government
- Law School
- Medical School
- Radcliffe Institute
- School of Education
- Harvard T.H. Chan School of Public Health

### 3.2 Harvard School of Engineering and Applied Sciences

As you saw earlier “being in Harvard” without precising which university doesn't mean much, and so, during this internship, I was affiliated to the Harvard School of Engineering and Applied Sciences, later called SEAS — Little story: the school name changed during my journey, as Mr John A. Paulson did a donation of \$ 400.000.000 to SEAS, so the school was renamed after him.

The progenitor of the School of Engineering and Applied Sciences was called *Lawrence Scientific School* and was founded in 1847. It was named for Abbott Lawrence, who donated \$50,000 (an unprecedented sum at the time) to create the institution. It was detached from Harvard College, which means it was independent financially. At this time, the School saw a diverse group of thinkers and professionals — astronomers, architects, naturalists, engineers, mathematicians, and even philosophers — pass through its doors.

At the end of the 19<sup>th</sup> century, the school suffered the “Competition” from the new born Massachusetts Institute of Technology (MIT) — Now one of the greatest engineering school in the world. The Harvard president of the time tried to merge the Harvard Scientific School with the MIT, vainly. In 1901, despite the help of Gordon McKay, the school merged with Harvard College and lost his independence.

Later, the Harvard Lawrence Scientific School became *The Division of Applied Science* and in 2007, it was rename as the *Harvard School of Engineering and Applied Science*. It's a new start for the the School, Venkatesh Narayanamurti, Dean of Harvard School of Engineering and Applied Sciences at the time declared:

*“Our transition from a Division to a School is not a departure from history—but in some sense, we are coming full circle. The Lawrence School, our progenitor, will be reborn in a new form appropriate for the 21st century.”*

Thus, strictly speaking, SEAS is a young school, only 8 years old, and in full growth. Thanks to the 4 million dollars given by John Paulson, the school will expend and build laboratories in Allston, the city bordering Cambridge, on the other side of the river.

In order to realise the importance of Harvard engineering school in the world of sciences, here are a few examples of inventions made here:

- in 1919, the **crystal oscillator** came out of the Harvard Engineering School's Cruft Laboratory, invented by George Washington Pierce
- in 1938, the **largest cyclotron of the world** (at the time) was constructed at the Graduate School of Engineering's Gordon McKay Engineering Laboratory.
- in 1977, Bill gates would have graduated from Harvard but he left the university to found **Microsoft**, one of the biggest company in the world.
- in 2004, **Facebook** was born in a dorm room of Harvard housing, created by Mark Zuckerberg, it's now the biggest social network ever created

### 3.3 Mazur group

Harvard School of Engineering and Applied Sciences is composed by several reseach groups. This summer, I worked with the group of professor Eric Mazur, Dean of

## 4 Organisation