

# Niharika Singh

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## Education

**Indraprastha Institute of Information and Technology Delhi**, Computer Science and Artificial Intelligence | Minor in Entrepreneurship

Delhi, India  
2021 – 2025

- Machine Learning
- Computer Vision
- Deep Learning
- Natural Language Processing
- Data Science
- Data Structures and Algorithms
- Algorithm Design and Analysis
- Operating System
- Database Management System

**KVS NFC Vigyan Vihar**, Higher Secondary School

Delhi, India  
2019 – 2021

- Physics
- Chemistry
- Mathematics
- Biology

## Experience

**Institute for Advanced Study, Princeton University**, Professor of Theoretical Physics  
Teaching at Palmer Physical Laboratory (now 302 Frist Campus Center). While not a professor at Princeton, I associated with the physics professors and continued to give lectures on campus.

Princeton University, NJ  
1933 – 1955  
22 years

- Relativity
- Description 2.

**California Institute of Technology**, Visiting Professor

Pasadena, California, US  
1933 – 1933  
1 year

- Description 1.
- Description 2.

**Kaiser Wilhelm Institute for Physics**, Director

Berlin, Germany  
1917 – 1933  
16 years

**Karl-Ferdinand University**, Professor of Theoretical Physics

Prague, Czechoslovakia  
1911 – 1917  
6 years

**University of Zurich**, Associate Professor of Theoretical Physics

Zurich, Switzerland  
1909 – 1911  
2 years

## Volunteer

**People's Climate March**, Lead Organizer

Zurich, Switzerland  
Apr 2014 – July 2015

Lead organizer for the New York City branch of the People's Climate March, the largest climate march in history.

- Awarded 'Climate Hero' award by Greenpeace for my efforts organizing the march.
- Men of the year 2014 by Time magazine

## Awards

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### Nobel Prize in Physics

Nov 1921

The Nobel Prizes are five separate prizes that, according to Alfred Nobel's will of 1895, are awarded to 'those who, during the preceding year, have conferred the greatest benefit to humankind.'

Royal Swedish Academy of Sciences

[www.nobelprize.org/prizes/physics/1921/einstein/biographical](http://www.nobelprize.org/prizes/physics/1921/einstein/biographical)

### Max Planck Medal

2029

Awarded for outstanding scientific achievement

German Physical Society

## Publications

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### Zur Elektrodynamik bewegter Körper

It concerned an interpretation of the Michelson–Morley experiment and the properties of light and time. Special relativity incorporates the principle that the speed of light is the same for all inertial observers regardless of the state of motion of the source.

Albert Einstein

[en.wikisource.org/wiki/Translation:On\\_the\\_Electrodynamics\\_of\\_Moving\\_Bodies](http://en.wikisource.org/wiki/Translation:On_the_Electrodynamics_of_Moving_Bodies)

### Über einen die Erzeugung und Verwandlung des Lichtes betreffenden heuristischen Gesichtspunkt

In the second paper, he applied the quantum theory to light to explain the photoelectric effect. In particular, he used the idea of light quanta (photons) to explain experimental results, but stressed the importance of the experimental results. The importance of his work on the photoelectric effect earned him the Nobel Prize in Physics in 1921.

Albert Einstein

[de.wikisource.org/wiki/%C3%9Cber\\_einen\\_die\\_Erzeugung\\_und\\_Verwandlung\\_des\\_Lichtes\\_betreffenden\\_heuristischen\\_Gesichtspunkt](http://de.wikisource.org/wiki/%C3%9Cber_einen_die_Erzeugung_und_Verwandlung_des_Lichtes_betreffenden_heuristischen_Gesichtspunkt)

### Die Grundlage der allgemeinen Relativitätstheorie

The publication of the theory of general relativity made him internationally famous. He was professor of physics at the universities of Zurich (1909–1911) and Prague (1911–1912), before he returned to ETH Zurich (1912–1914).

Albert Einstein

[de.wikisource.org/wiki/Die\\_Grundlage\\_der\\_allgemeinen\\_Relativit%C3%A4tstheorie](http://de.wikisource.org/wiki/Die_Grundlage_der_allgemeinen_Relativit%C3%A4tstheorie)

## Skills

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### Physics

## Languages

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### German

Native speaker

### English

Fluent

## Interests

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### Physics

## Certificates

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### Machine Learning

Jan 2018

### Quantum Computing

Jan 2018

### Quantum Information

Jan 2018

## **Projects**

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### **Quantum Computing**

Jan 2018 – Jan 2018

Quantum computing is the use of quantum-mechanical phenomena such as superposition and entanglement to perform computation. Computers that perform quantum computations are known as quantum computers.

- Quantum Teleportation
- Quantum Cryptography