

# Akhilesh Gotmare

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## EDUCATION

### EPFL

#### MSC IN COMPUTER SCIENCE

Expected Feb 2019 | Lausanne, CH  
Cum. GPA: 5.22/6

### IIT GANDHINAGAR

#### BTECH IN ELECTRICAL ENGINEERING

Apr 2016 | Gandhinagar, IN  
Minor in Computer Science and Engineering  
Dean's List (Semesters I, II, III, IV, VI, VII)  
Cum. GPA: 8.99 / 10

## LINKS

Google Scholar:// Akhilesh Gotmare  
Github:// akhileshgotmare  
LinkedIn:// akhilesh-gotmare

## COURSEWORK

### GRADUATE

Machine Learning  
Applied Data Analysis  
Convex Optimization  
Advanced Algorithms  
Maths of Data  
Distributed Algorithms  
Automatic Speech Processing

### UNDERGRADUATE

Operating Systems  
Algorithms  
Computational Photography  
Algorithms for Data Science  
Data Management  
Digital Signal Processing

## SKILLS

### PROGRAMMING

Python • Shell • C • Matlab  
SQL • Weka • LaTeX

### LIBRARIES

sklearn • numpy • scipy  
pandas • networkx • tensorflow  
keras • opencv • matplotlib

## POSITIONS HELD

Primary Licensee, TEDxIITGandhinagar  
Academic Secy., Student Council IITGN  
Student Guide, IITGN

I am pursuing Master's in CS at EPFL (consistently ranked in the top 5 Universities in Europe), where I have focused on ML research through projects and internships.

## RECENT PUBLICATIONS

- [1] A. Gotmare, N. S. Keskar, C. Xiong, and R. Socher. Using Mode Connectivity for Loss Landscape Analysis. Workshop on Modern Trends in Nonconvex Optimization for Machine Learning, ICML 2018, Stockholm, Sweden
- [2] A. Gotmare\*, V. Thomas\*, J. Brea, and M. Jaggi. Decoupling Backpropagation using Constrained Optimization Methods. Workshop on Efficient Credit Assignment in Deep Learning and Deep Reinforcement Learning, ICML 2018, Stockholm, Sweden

Full list here.

## EXPERIENCE

### SALESFORCE RESEARCH (METAMIND) | DL RESEARCH INTERN

Supervised by Dr. Nitish Keskar, Dr. Caiming Xiong and Dr. Richard Socher.  
Palo Alto, US | Apr 2018 - Sept 2018

- Studied mode connectivity as a tool for neural network loss landscape analysis, intermediate results published at an ICML 2018 workshop
- Worked towards building efficient language modelling architectures using the transformer decoder (attention-only modules)
- Used representational analysis tools to guide the design of robust defenses against adversarial perturbations

### MACHINE LEARNING LAB, EPFL | RESEARCH SCHOLARS' PROGRAM

Supervised by Prof. Martin Jaggi  
Lausanne, CH | Sept 2016 - Feb 2018

- Studied scalable alternatives to backpropagation for training neural networks inspired by alternating direction method of multipliers (ADMM)
- Currently working on ADMM inspired model parallel approaches to deep learning, intermediate results published at an ICML 2018 workshop

### DATA SCIENCE LAB, UNIV. OF NOTRE DAME | REU SUMMER INTERN

Supervised by Prof. Nitesh Chawla  
Notre Dame, US | May 2015 - July 2015

- Studied the performance of deep learning techniques for the classification of real world imbalanced datasets | Studied the data pre-processing techniques like oversampling or SMOTE, undersampling and Tomek-links reduction and their impact on classification performance with neural network models

## COURSE PROJECTS

Recommender system using collaborative filtering techniques	Machine Learning
Analysis of Amazon reviews for Swiss Products	Applied Data Analysis
Study of multiplicative weight updates for solving linear programs	Convex Optimization
Prototype designing of a DBMS for the placement cell at IIT GN	Data Management

## AWARDS

MSc Research Scholarship at Machine Learning lab, EPFL	2017
Cash Award for Journal Publication, IIT GN	2015 & 2017
Discipline Topper Academic Excellence Scholarship, IIT GN	2013
High School Scholarship by Maharashtra State ranked 22nd/700,000	2007