

Kunal Ghosh

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EDUCATION

MASTERS

Machine Learning and Data Mining
Aalto School of Science
Grade - 4.66
Graduation (with Honours) Nov 2017

UNDERGRADUATE

Computer Science
Visvesvaraya Technological University
Grad May 2011 | Bangalore, India

COURSEWORK

MASTERS

- Deep Learning
- Gaussian Processes
- Kernel Methods
- Programming Parallel Computers
- Convex Optimization • Information Retrieval • Bayesian Data Analysis
- Algorithmic Methods of Data Mining
- Computational Science

MOOC

Learning From Data (edX.org):
 • Instructor : Prof Yaser (Caltech)
 • 10 week long Machine Learning course with 8 homework sets and a final exam • Assignments done using **Matlab and LibSVM**
 • Course with significant theoretical content. Topics include : Theory of Generalization, VC Dimensions, Kernel Methods and SVM • Grade: 80%

Machine Learning (Coursera):

- Instructor : Prof Andrew (Stanford)
- 10 week long course.
- Assignments done in **Octave**.
- Practical course focusing more on applications of machine learning.
- Grade: 100%

SKILLS

Good with:

- Python (Including Theano, Numpy, Scipy, SciKit Learn) • Matlab & Octave

Some knowledge of:

- C • C++ (Cuda & OpenMP) • Stan (Probabilistic Programming) • SQL • Shell Scripting • Java • \LaTeX

WORK EXPERIENCE

AALTO UNIVERSITY | Research Assistant - Honours Program

Oct 2016 - August 2017 | Espoo, Finland

- Developed deep learning models to predict molecular electronic properties. Supervised by Prof. Vehtari (Dept. Computer Science) and advised by Prof. Patrick Rinke (Dept. Applied Physics).

AALTO UNIVERSITY | Research Assistant

May 2016 - Oct 2016 | Espoo, Finland

- Studied semi-supervised extensions of the Variational Auto-Encoder and related models. Supervised by Prof. Tapani Raiko and subsequently by Prof. Aki Vehtari, advised by Dr. Jyri Kivinen.

AMAZON | Software Development Engineering in Test

Dec 2013 - Aug 2015 | Bangalore, India

- Developed tests to validate the effect of seasonality on a Shoe size recommendation system.

AMAZON | Quality Assurance Engineer

Aug 2011 - Nov 2013 | Bangalore, India

OWNCLOUD.ORG | Google Summer of Code Intern

May 2011 - Aug 2011

DIGIKAM.ORG | Season of KDE Intern

May 2010 - Sept 2010

TEACHING

- 2017 - Teaching Assistant, *Deep Learning*, Aalto University. (~250 students)
- 2016 - Main Teaching Assistant, *Seminar course on Deep Learning*, Aalto University. (~40 students)

THESIS & CONFERENCE ABSTRACTS

- [1] **Kunal Ghosh**, Guruprasad M, Dharini S, and Kirantej J.L. Comparing the effect of different dimensionality reduction algorithms on face-recognition accuracy, using eigen faces. *Bachelor's Thesis, Sir MVIT Bangalore*, 2011.
- [2] Annika Stuke, Milica Todorovic, **Kunal Ghosh**, and Aki Vehtari Patrick Rinke. Spectral property prediction with artificial neural networks. *Abstract published in Deutsche Physikalische Gesellschaft e.V.*, 2017.
- [3] **Kunal Ghosh**. Deep learning for predicting molecular electronic properties. *Master's Thesis, Aalto University*, 2017.

AWARDS

- 2016 Inducted into the Machine Learning **Honours Program** at Aalto University. Awarded for maintaining good progress in studies (completed 63 ECTS out of 90 in the 1st year) while maintaining good grades (4.55 out of 5)
- 2014 2nd/100 teams. Amazon Internal Machine Learning Contest.
- 2013 **99.5 percentile** in GATE 2013. 1019th/224160 candidates.
- 2004 29th/~2x10⁵ candidates. National Talent Search Scholarship. State Level.