Aditya Krishna Menon

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EDUCATION

◇ **University of California, San Diego**, La Jolla, CA.
Ph.D. in Computer Science, expected graduation: 2012. *Thesis area*: Machine learning.
M.S. in Computer Science: June 2009.

◇ **University of Sydney**, Sydney, Australia.
B.Sc. (Advanced) with Honours in Computer Science (minor in Mathematics), November 2006.
Thesis title: *Random projections and applications to dimensionality reduction.*

◇ **Awards and Scholarships**

· *Jacobs Fellowship*, University of California San Diego, 2007 – present. Award given to best incoming PhD students in the Jacobs School of Engineering.

· *Allen Bromley prize*, The University of Sydney, 2007. Awarded for best Honours thesis in School of Information Technologies.

· *University Medal*, The University of Sydney, 2007. Selective award given to the top Honours students in the Faculty of Science.

SELECTED COURSES

◇ **University of California, San Diego**:
· CSE200, Computability and Complexity: A+
· CSE202, Algorithms: A+
· CSE221, Operating Systems: A+
· CSE205A, Logic in Computer Science: A+
· CSE207, Modern Cryptography: A+
· CSE250A, Principles of AI: Probabilistic Reasoning and Decision-Making: A
· CSE250B, Principles of AI: Learning: A

◇ **University of Sydney**:
· MATH1903, Integral Calculus and Applications: 100
· MATH2901, Vector Calculus: 100
· SOFT3804, Software Development II: 97
· INFO4011, Intractable Problems in Theory and Practice: 96

RESEARCH INTERESTS

◇ *Machine learning*: Collaborative filtering, low-rank approximations, large-scale learning, support vector machines, random projections, dimensionality reduction.

◇ *Other*: Algorithms, complexity theory.

REFEREED PUBLICATIONS

◇ Fast algorithms for approximating the singular value decomposition. Aditya Krishna Menon, Charles Elkan. *To appear in Transactions of Knowledge and Data Discovery: Special Issue on Large-Scale Data Mining (**TKDD-LDMTA**), 2010.*

◇ A log-linear model with latent features for dyadic prediction. Aditya Krishna Menon, Charles Elkan. *In IEEE International Conference on Data Mining (**ICDM**), Sydney, Australia, 2010.*

◇ Predicting labels for dyadic data. Aditya Krishna Menon, Charles Elkan. *In Data Mining and Knowledge Discovery: Special Issue on Papers from **ECML-PKDD**, Volume 21, Number 2, 2010.*

◇ An incremental data-stream sketch using sparse random projections. Aditya Krishna Menon, Gia Vinh Anh Pham, Sanjay Chawla, and Tasos Viglas. *In Proceedings of the 2007 SIAM International Conference on Data Mining (**SDM**), Minnesota, USA.*

PAPERS PENDING REVIEW

◇ Predicting accurate probabilities in supervised learning. Aditya Krishna Menon, Xiaoqian Jiang. *Submission to KDD 2011.*

◇ Collaborative filtering with hierarchies for response prediction. Aditya Krishna Menon, Krishna-Prasad Chitrapura, Sachin Garg. *Submission to KDD 2011.*

OTHER PAPERS

◇ Large-scale Support Vector Machines: algorithms and theory. Aditya Krishna Menon. *UCSD Research Exam Report, 2009.*

◇ An incremental data-stream sketch using sparse random projections. Aditya Krishna Menon, Gia Vinh Anh Pham, Sanjay Chawla, and Tasos Viglas. *Technical Report, The University of Sydney, #609, 2007.*

◇ Random projections and applications to dimensionality reduction. Aditya Krishna Menon. *Honours thesis, The University of Sydney, 2006.*

RESEARCH EXPERIENCE

◇ **Intern**, Yahoo! Labs Bangalore. June 2010 – Sep 2010. Worked with the advertising sciences team on estimating the probability of an advertisement being clicked when displayed on a webpage. We showed how to approach the problem using techniques from the collaborative filtering literature. We further extended these techniques to exploit hierarchical information about webpages and advertisement, which led to significant performance increases.

◇ **Research assistant**, Tasos Viglas, February – August 2007. Worked on sparse random projections and algorithmic game theory.

◇ **Intern**, Infosys Bangalore. December 2005 – February 2006. Worked in the Grid Computing group in SETLabs on static analysis of code to detect parallelism opportunities. Refactored existing Java code base to make use of several design patterns. Developed code in Java, interfacing with the ANTLR and GraphWiz packages to create a visual display of dependencies inside Java code to be deployed on a grid.

TEACHING EXPERIENCE

◇ **Teaching assistant**, University of California, San Diego. January – March 2010. TA for graduate course CSE250B, Principles of AI: Learning. Held office hours, graded projects and exams.

◇ **Teaching assistant**, University of California, San Diego. January – March 2009. TA for undergraduate course CSE101, Algorithms. Held discussion sections, office hours and graded exams.

◇ **Instructor**, Intuition Australia. June 2004 – September 2006. Wrote a complete set of mathematics lessons, comprising explanation of concepts with examples and exercises, for the yearly 10 week course held by the company. Since February of 2005, tutored students in Extension 2 mathematics (the highest level in Australian schools) classes.

PROFESSIONAL SERVICE

◇ PC member for KDD 2011
◇ PC member for ICDM LDMTA Workshop 2009, 2010

SKILLS

◇ *Programming languages*: C, C++, C#, Java, MATLAB, OCaml, Python.

◇ *Other*: Working knowledge of HTML, JavaScript and SQL. Developed code with Visual Studio .Net, Eclipse. Comfortable with Linux and Windows.

REFERENCES

◇ **Charles Elkan**. Professor, Department of Computer Science and Engineering, University of California, San Diego. Email: `elkan@cs.ucsd.edu`.

◇ **Sanjay Chawla**. Head of School, School of Information Technologies, University of Sydney. Email: `chawla@it.usyd.edu.au`.

◇ **Sachin Garg**. Director, Advertising Sciences, Yahoo! Labs Bangalore. Email: `gsachin@yahoo-inc.com`.

◇ **Lawrence Saul**. Professor, Department of Computer Science and Engineering, University of California, San Diego. Email: `saul@cs.ucsd.edu`.