Davidson Fellow
Michael Cherkassky
($25,000 Scholarship Recipient)

Personal Info
Michael Cherkassky
Age: 16
Minneapolis, Minnesota

School, College and Career Plans
A rising senior at Edina High School, Michael is still considering his college choices and hopes to major in Computer Science or Biological Science and pursue a career in academia.

Davidson Fellows Submission *(Technology)*
In his project, "Application of Machine Learning Methods to Medical Diagnosis," Michael applied computer machine learning methods to computer-aided medical diagnosis. He compared the application of several machine learning methods to real-life medical data sets in order to understand the generalization capability of the estimated models, advancing the current predictive diagnostic model. Michael also compared the diagnostic accuracy of two classification methods, allowing physicians to obtain more accurate diagnostic conclusions while advancing patient care.
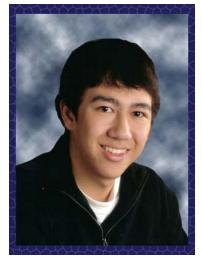
Biography
At age 11, Michael was accepted to the University of Minnesota Talented Youth Mathematics Program. This rigorous program taught him Calculus and Linear Algebra and helped Michael build a solid foundation in mathematics and science.

After completing research in classical statistics in his sophomore year of high school, he decided to further explore a more recent approach to data analysis, called machine learning.

Wanting to integrate his knowledge of machine learning and medicine, he began research in medical diagnosis. Though Michael had knowledge of statistics, one of the largest challenges he faced was becoming familiar with the field of machine learning. Taking Advanced Placement Computer Science during his sophomore year, helped Michael learn how to program, which was an important part of his project.

Michael enjoys listening to and playing music. He plays the piano and violin. Michael has been a member of the University of Minnesota Badminton Club for three years. He has also participates in debate, the math team, golf, the chemistry team, the ping pong team and orchestra (violin).

Please see next page.

Honors/Awards

- 2008 Davidson Fellow

- 2008 RSI (Research Science Institute) Scholar

- 2008 Intel International Science and Engineering Fair (ISEF) Finalist

- 2008 Intel ISEF American Statistical Association, second place

- 2008 Intel Excellence in Computer Science Award

- 2008 Yale Science and Engineering Award

- 2008 Bausch & Lomb Honorary Science Award

- 2007 Minnesota Scholar of Distinction in Science

- 2007 Minnesota Scholar of Distinction in Mathematics

- 2007 Davidson Fellows Honorable Mention

- 2007 AP Scholar with Distinction

- 2004-2007 University of Minnesota Talented Youth Mathematics Program

- 2006 Upper Midwest Music Festival Piano Superior Level

- 2006 Minnesota Music Teachers Association Piano Senior B Winner

- 2005 Minnesota Music Teachers Association Piano Junior Young Artist

Community Activities

Michael started a non profit organization, Edina Youth Musicians, dedicated to brightening up the days of senior citizens through music. Once every couple of months, Michael and a group of his friends travel to a local retirement home and just play music.

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