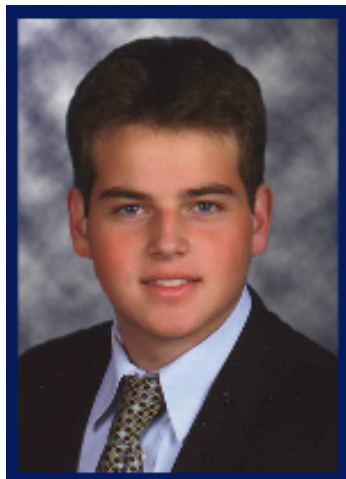


Davidson Fellow
Alexander P. Gilbert
\$10,000 Scholarship Recipient



Personal Info

Age: 16
McLean, Virginia

School, College and Career Plans

A rising senior at St. Albans School in Washington, D.C., Alexander plans to major in biomedical engineering or biophysics in college, and pursue a Ph.D. degree and a career in research.

Davidson Fellows Submission (Technology)

In his project, "A Quantitative T2 MRI Mapping at 1.5 Tesla," Alexander developed a computer algorithm which improves contrast in magnetic resonance imaging (MRI). His program has been successfully applied to brain MR images, enabling more accurate image definition of tissues, such as areas of demyelination, or plaques, which are often present in patients with multiple sclerosis. Alexander's work is pertinent to MRIs of the spine and other areas, and offers the potential for better diagnosis and monitoring of multiple sclerosis and other neurological diseases including Alzheimer's disease.

Biography

Alexander's academic career originated in an intense interest in math and science. Over the years, he has benefited from an accelerated gifted and talented curriculum, the Davidson Young Scholars Program, courses at Johns Hopkins through the Study of Exceptional Talent program, and conducting independent research.

Alexander is especially intrigued by the application of technology to disease diagnosis and cure. Although it was challenging to find a research position at the age of 15, he was fortunate to be given the opportunity to join the MRI group focusing on multiple sclerosis at the Neurological Disorders and Stroke Division of the National Institutes of Health; his project resulted in his Davidson Fellows submission. This summer he participated in the Research Science Institute at Massachusetts Institute of Technology, where his lab work focused on identification of new stains that increase MR image contrast.

In addition to science and math, Alexander enjoys debating as part of his school's Government Club and writing editorials as a staff writer for one of the two school newspapers. For the past seven years he has played the euphonium, performing as an accompanied soloist as well as in orchestral and band concerts. He is also a varsity tennis player and enjoys playing chess.

Please see next page.



Davidson Fellow
Alexander P. Gilbert
cont.

Honors/Awards

- 2010 Davidson Fellow
- 2010 RSI Research Science Institute (RSI) Scholar
- 2010 Raytheon Math Hero Award
- 2010 Curtis Jacobs Washington Statistical Society Award
- 2010 Computer Science District of Columbia Science and Engineering Fair First Place; Walter Reed Research Scholarship Winner; CIA Award
- 2010 Advanced Placement Scholar with Distinction
- 2010-2007 American Invitation Mathematics Examination (AIME) Qualifier
- 2009 American Mathematics Competition 10 (AMC 10) District of Columbia First Place
- 2009 University of Maryland High School Programming Gannon Prize
- 2009 Environmental Science District of Columbia Science and Engineering Fair First Place; American Nuclear Society Award; Federal Water Quality Association Award; Achievement in Optics Award
- 2009 Environmental Science First Place and Delegate, Virginia Junior Science and Humanities Symposium in Colorado Springs, CO
- 2009 Christ Bozes Medical Essay Award
- 2009 Biomedical Research Intern National Institutes of Health
- 2009, 2008 Highest Honors in American Classical League Ancient Greek Exams
- 2008 Vernon L. Smith Workshop in Experimental Economics, George Mason University
- 2007 Awesome Math Summer Program, University of Dallas
- 2006 Study of Exceptional Talent, Center for Talented Youth, Johns Hopkins University

Community Activities

Alexander founded and directs "Adventures in Science," a fun, non-classroom program for local 5th and 6th graders with limited exposure to math and science. The program involves a summer camp with hands-on activities and field trips during the school year to area museums and science institutions.

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