

President's Award application essay
David Fifield

I began my studies at Metro State in fall 2004. Since then, I have maintained a 4.0 GPA through a demanding academic schedule. I started out with a major in computer science and later broadened this to include a major in mathematics as well. Achieving this dual major has required success in challenging subjects including software engineering, algorithm analysis, advanced calculus, differential equations, and numerical analysis. Despite the additional classes, I will have completed the requirements for both degrees in only three and a half years.

I was awarded the President's Academic Achievement Award twice, earning \$2,500 in grants. I was named a Colorado Scholar for a further grant of \$1,000. I have been on the President's Honor Roll all three years that I have attended Metro State. The Department of Mathematical and Computer Sciences awarded me a certificate for my "exceptional accomplishments" on the William Lowell Putnam Mathematical Competition, in which I have taken part twice.

My education has been entirely self-financed. I paid part of my tuition using money I saved working part time in the four years after high school before I started college. In the summer of 2005 I used my degree-in-progress to get a programming job at the National Earthquake Information Center in Golden, part of the United States Geological Survey. I worked for the college during the spring 2007 semester as a paid computer science tutor, having

been recommended by a faculty member. I used the money from these jobs to further pay for my education. I am pleased that I was able to obtain my degree without incurring any debt.

In the summer of 2007 I was accepted to the Google Summer of Code. This prestigious and exclusive program (out of over 6,000 applications, only 900 were accepted) pays students to work on free software programs during the summer. From May until August I helped develop the Nmap security scanner, a computer program well-known by security workers and used by millions of people. As a representative of Metro State, I presented the results of my involvement in the program at the 2007 Front Range Information Security Conference at the University of Denver. After I successfully completed the Summer of Code, the programmer in charge of the Nmap organization invited me to continue working for him as a paid employee. I accepted, and hold that position currently.

During the summers of 2006 and 2007 I had the privilege of being part of Metro State's DemoSat team under the supervision of professor Keith Norwood. Several Colorado universities participate in the DemoSat program, which gives students a taste of space exploration. I wrote the on-board flight software and off-line data analysis programs for two payloads that were flown to 100,000 feet while taking inertial measurements. I wrote an academic paper describing our team's methods and the code I wrote: "Inertial measurement and realistic post-flight visualization." This paper was published in the proceedings of the 2007 Colorado Space Grant Con-

sortium Undergraduate Space Research Symposium, and was awarded the \$250 first prize in its session on “system development.” After the 2007 mission I accompanied my team to Kennedy Space Center in Florida to present our results and witness a space shuttle launch. The experience was written up on Metro State’s web site: http://www.mscd.edu/~collcom/artman/publish/Demosat_Program_An_out-of-this-world_experience_for_students.shtml.

I represented Metro State at the 2007 Computer and Network Vulnerability Analysis Simulation (CANVAS) competition. The competition, which took place at the United States Air Force Academy, involved auditing a complex computer system for security vulnerabilities, then writing a report on what vulnerabilities were found and how they might be corrected. My team, which included me and two students from other schools, took first place among 18 teams. This accomplishment was written up on Metro State’s web site: http://www.mscd.edu/~collcom/artman/publish/kudos_tvw4050907.shtml.

Boy Scouting has been an important part of my life since I was young. In 2000 I became an Eagle Scout, part of which accomplishment was to collect books and conduct a fundraiser for the Aurora Public Library. Since then I have been an assistant Scoutmaster in my Boy Scout troop. I have attended many troop meetings, campouts, and service projects. I have taught merit badges on topics such as music, computers, first aid, and backpacking. I led a crew of nine Scouts on a ten-day backpacking trek at the Philmont high-

adventure camp in New Mexico. For my service in the troop I was named an Outstanding Volunteer. A particular interest of mine is the development of leadership ability in youth. For eight years I have been on volunteer staff at the Big Horn National Youth Leadership Training camp, most recently holding the position of Scoutmaster, the most senior adult position, responsible for the health and safety of over 50 Boy Scouts.

My goal is to become a programmer of widely used, high-quality free software. I want to help foster a spirit of freedom, sharing, and scientific discovery. I believe I will achieve this because of my ability and desire to succeed. My motivation has already allowed me to complete college, run four marathons, and climb 16 fourteeners. Maybe one day I will have climbed them all.

My achievements have brought credit to me and to Metro State. I have always been a self-motivated learner, but attending college has brought me opportunities that I would never have seen on my own. It is my hope that my Metro State education will bring me future opportunities and success. Please consider me for the President's Award.