

111 Grandview Drive  
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Patrick Kage

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# CHOATE ROSEMARY HALL

Wallingford, CT

2016

Honors: Grade 12

ACT: 34/36

Subjects: Math II: 750 Physics: 760

Honors: Senior: Application Design

Sophomore: Chemistry

Freshman: Physics, Algebra II

Advanced Placement:

Senior: Statistics

Junior: Computer Science, 5 AP Exam

## A W A R D S

### Dean's List Award

Excellence In All Subjects Fall 2016, Winter 2016 and Spring 2016

Yearbook Superlative

Most Likely to Invent the Next Big Thing

2016

Choate Press Features

Alumni Bulletin

Feature Story

Spring 2016

Choate News

Highlighted

April 2016

Advanced Computer Science

Award for Excellence

Honorable Mention

2016

Award for Excellence

First Place

2015

She++

Fellowship Award

Stanford University

April 2016

National Merit Program

Student Award

Commended

2014

## L A N G U A G E S

English: Native

Polish: Conversational

Mandarin: Intermediate

## E X T R A C U R R I C U L A R S

Choate Programming Club

Founder, President

Hours: 480 hours

2012 - 2016

Responsible for meetings and strategic planning. Applied and received \$1000.00 Google grant.

Handled faculty interactions, fundraising, developed computer science curriculum, taught and ran workshops.

Recognized for increasing Choate CS-related school credits earned from 20 per year to over 200 (as of 2015).

Math Team

Member

Hours: 40 hours

2012 - 2014

Competed in tournaments and attended weekly meetings.

Stanford University, She++

Fellow

Hours: 72 hours

2014

Addressed gender and ethnic diversity in computer science/other STEM fields.

Capital Classics

Developer

Hours: 20+ hours

2015 - 2016

Developed and maintained non-profit Capital Classics Shakespeare Group's website.

## A C A D E M I C P R O G R A M S

Johns Hopkins Center for Talented Youth

Student

Hours: 720 hours

2013, 2014

College-level courses: robotics, inductive/deductive reasoning, cryptology, computer science, electrical engineering, and biology.

Stanford University

Student

Hours: 182 hours

Summer 2014

Explored Objective-C application design for iOS devices.

## E M P L O Y M E N T

NASA Jet Propulsion Laboratory

Intern, Research Software Engineer

Hours: 400 hours

Summer 2016

Based out of JPL's 397-F (Ops Lab Human Interfaces Group) to develop mission formulation software to enable design of satellite propulsion systems in support of Team X and Xc's model-based systems engineering and foundry modernization initiatives. Resulting project made part of JPL's long-term strategic plan. Invited to return for internship summer 2017.

MIT STAR Lab

Intern, Research

Hours: 280 hours

Summer 2015

Developed task scheduler monitor for the MiRaTA microsatellite RTOS (Salvo) and Flask/Python-based web dashboard for ground station monitoring and control. Personally presented work at MIT/US Department of Defense Lincoln Laboratory. Also worked remotely with NASA's Jet Propulsion Lab (JPL) to identify existing spacecraft buses to fit proposed mission payloads by meeting user-specified constraints (cost, power, etc.).

Resulting in invitation to JPL for spring facility tour in preparation for summer 2016 internship.

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### C O M M U N I T Y   S E R V I C E

St. John's Middle School	Instructor	Hours: 8 Hours	2012 - 2016
Prepared and taught a class in robotics to 10 7 <sup>th</sup> -graders			
St. Dunstan Church	Member/Volunteer	Hours: 30 hours	2012 - 2016
Numerous events and fundraisers. Helped with Christmas decorations, kitchen, and running cookout.			
Choate Rosemary Hall	Boars Against Hunger	Hours: 12 Hours	2012 - 2016
Worked with Harvest Pack to package meals for food shipments to insecure families in Haiti and the U.S.			

### C O M P U T E R   S C I E N C E

NASA Jet Propulsion Laboratory (JPL)	Intern, Software Engineer	Hours: 80 hours	March 2016
Invited to spend spring break at JPL in an exploratory capacity, shadowing Team X and Xc operations.			
Hewlett Packard Code Wars	Team Captain/Organizer	Hours: 4 hours	March 2015
Intense coding competition for high school students.			
Stanford University, She++ Diversity Summit	Speaker	Hours: 48 hours	April 2014
Spoke at Google, Facebook, Microsoft, and Oracle panels about gender diversity in computer science.			

### P E R S O N A L   S P O R T S

Tennis	Weightlifting	Running	Bicycling
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### M U S I C

Piano: Tutoring	Glastonbury/Choate	2006 – Present
Guitar: Self-taught		2015 – Present

### S K I L L S

Adobe Creative Suite 6		
Illustrator	Poster making, print design, web design, application mockups	
Photoshop	Photo enhancement/composition	
Premier/After Effects	Video production	
Application Development		
Web Application Development	HTML/CSS/JS, Node.js, Python, MongoDB	
Native Application Development	Python, Electron, Objective-C	
Systems Programming	C/C++, PIC24 Assembly	
Cybersecurity		
Reverse Engineering	Hex editing, disassembly, exploit generation	
Pentesting	Metasploit, Ettercap, Wireshark	
Software		
MS Office	PyCharm (Python IDE)	CLion (C/C++ IDE)
XCode (Objective-C/C/Swift/C++ IDE)	Terminal	Vim (Text editor)
Final Cut Pro (Video production)		

### T R A V E L

Domestic:	California, Connecticut, Florida, Maine, Maryland, Massachusetts, New Hampshire, New York, Pennsylvania, Rhode Island, Vermont, Washington DC
International:	Austria, Canada, Czech Republic, Germany, Greece, Italy, Liechtenstein, Mexico, Poland, Switzerland, United Kingdom