- National Science Foundation Graduate Research Fellowship

Colorado School of Mines 2004

BS in Physics

- Minors: Electrical Engineering, Public Affairs
- GPA 4.00/4.00 (1st in class)
- Dean's Service Award
- Member, Board of Trustees

Software Skills

Core Language Proficiencies: Python, Java, Bash, C
Substantial Language Experience: JavaScript, Go, Scala, R, LaTeX, LabVIEW, MATLAB, Mathematica
NoSQL Databases: MongoDB, OrientDB, Cassandra
Distributed Data Grids & Caching: Redis, Memcached, Terracotta, Hazelcast
Relational Databases: MySQL, SQLite
Message & Task Queues: RabbitMQ, AWS SQS, Celery
Application & Web Servers: nginx, Apache, uWSGI, Tomcat, Jetty, ejabberd
Cloud-Based Infrastructure: Amazon Web Services, Google Cloud Platform, Digital Ocean
VMs & Containers: Docker, Vagrant, Packer, VitualBox, VMWare Fusion
Linux Distros: CentOS, Ubuntu
Packaging & Package Managers: RPM, pip, conda, Pants, npm, bower, Maven
Continuous Integration & Automation: Ansible, Fabric, Jenkins, TravisCI
Load Testing Frameworks: JMeter, Grinder, Tsung
TDD & BDD: JUnit, pytest, nose
E2E Testing: Selenium, SauceLabs
Frameworks: Django, AngularJS, jQuery, Foundation, Twitter Bootstrap, Qt, Swing, JavaFX
Protocols: HTTP, XMPP, Thrift
Design Patterns
Algorithm Design and Development
RESTful APIs
Web and Network Security Best Practices (OWASP Member)
Agile / Scrum / Jira

based technology offering. The al
Engine instances, which were rep
capable of handling production-s
savings to the company of $1.4 m
- Architected scaling and redundan
technologies.
- Authored 78% of server-side cod

NASA Jet Propulsion Laborat

Microdevices Engineer

- Principal Investigator for JPL awa
- Developed ErwinJr software pack
#48342; released publicly as oper
C++.
- Demonstrated first near-room te
laser fabricated within NASA for A
Control) project.
- Designed, fabricated, and tested
- Demonstrated high power (>100
single spatial mode lasers for CO_2
- Demonstrated world's first high p
wave 2.05 µm distributed feedba
CO_2 Emissions over Nights, Days,
- Developed advanced packaging t
operation.
- Mentored multiple graduate stud

Princeton University

Postdoc Research Engineer

- Developed traditional heterodyn
- Researched non-traditional heter
- Designed and built opto-electron
components.
- Authored detection and analysis a

Primis Technologies LLC

Founding Partner & Senior Engine

- Founded a startup company lever
systems technology.
- Authored funding proposals for s
development.
- Developed core intellectual prop
  - advanced quantum cascade las
  - novel quantum cascade laser d
  - mid-infrared spectroscopic sen

Awards

Jet Propulsion Laboratory Team Award	2011
Princeton University Wallace Fellow (signifying top 24 recognition within PhD cohort)	2008
Princeton University Wu Prize for Excellence	2008
Sigma Xi	2008
IEEE Indium Phosphide and Related Materials Conference Best Student Paper Award	2006
National Science Foundation Graduate Research Fellowship	2004
Colorado School of Mines Highest Scholastic (first in class) Honors	2004
Colorado School of Mines McBride Honors Program Philipose Senior Award	2004
Colorado School of Mines Physics Faculty Distinguished Graduate Award	2004
Colorado School of Mines Dean's Service Award	2004
Tau Beta Pi	2002
American FFA Degree	2000

Activities & Volunteer Service

Princeton University IEEE Student Chapter Executive Board	2007–2009
Princeton University Graduate Engineering Ambassadors	2005–2009
National Science Bowl and National Middle School Science Bowl Moderator	2003–2008
National Science Bowl and National Middle School Science Bowl Question Author	2005–2008
Princeton University Graduate Engineering Council	2006–2007
Princeton University Electrical Engineering Graduate Student Council	2005–2006
Colorado School of Mines Board of Trustees Student Trustee	2003–2004
Colorado School of Mines Society of Physics Students	2002–2004
Colorado School of Mines College Republicans Chairman	2002–2004
Colorado School of Mines McBride Honors Program	2000–2004
Colorado School of Mines Tau Beta Pi Treasurer	2003–2004
Colorado School of Mines Student Body Secretary	2002–2003

analysis
- Commercial and self-coded sof modeling and simulation
- Mid-infrared optoelectronic de communication systems
- Spectroscopic analysis techniq

AdTech Optics, Inc.
Technical Consultant
- Collaborated on DARPA-funded q contract for infrared countermea
- Developed instrumentation for au systems.
- Authored and performed test pro components.
- Advised on production flow impro

National Renewable Energy
Research Intern
- Researched novel approaches to
- Constructed an automated proto
- Synthesized carbon nanotubes th
- Used Raman spectroscopy, transm thermogravimetric analysis chara

Colorado State House of Rep
Legislative Intern
- Aid to Representative Brad Young
- Drafted responses to constituent
- Assisted in analysis of TaBOR effe

U.S. Department of Energy, O
Intern
- Traveled to DOE National Labs as Workforce Development in intern program value and customer (inte
- Advised on strategic direction for
- Editor and contributing author fo Science Journal of Undergraduate
- Worked directly under an Office o including program management a