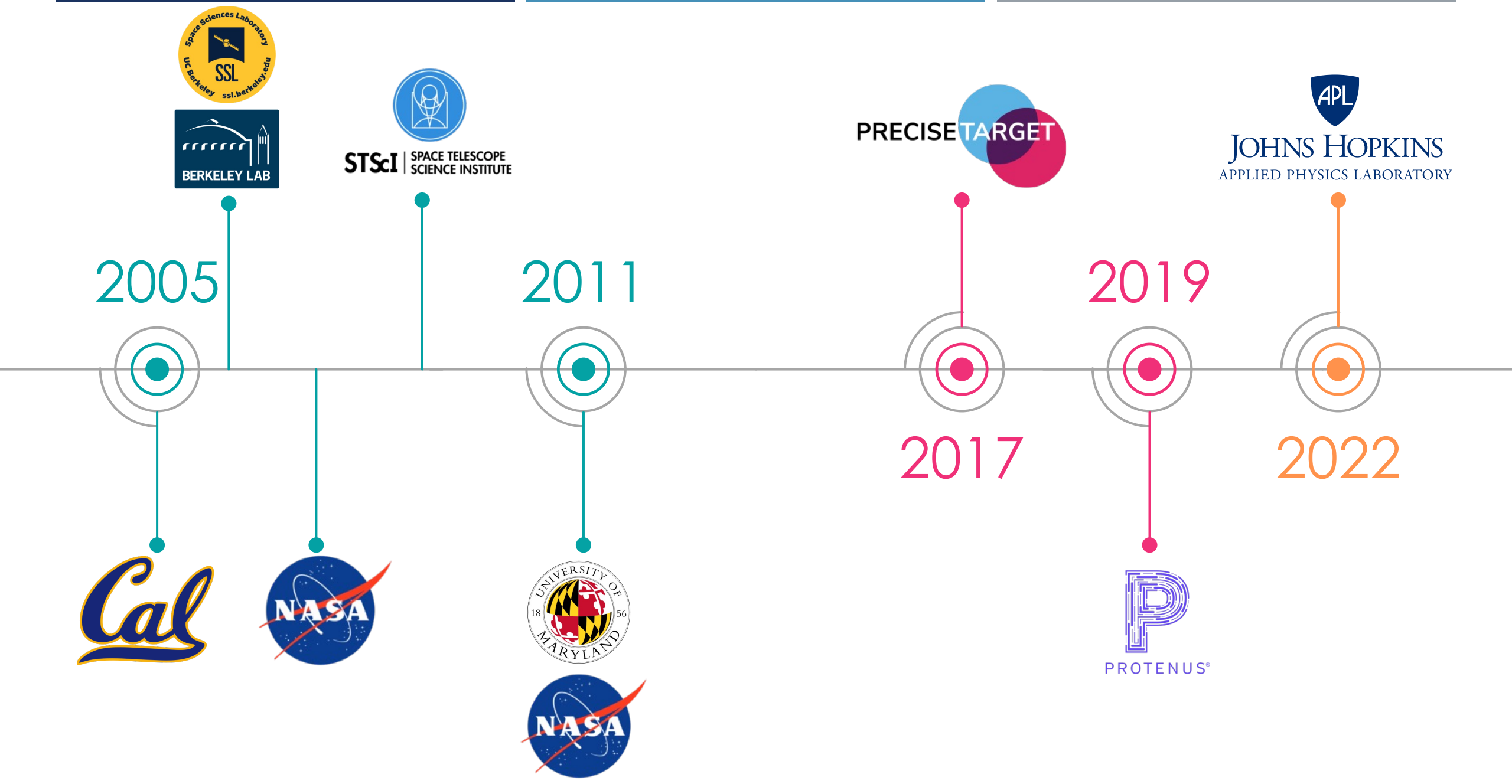
PROFESSIONAL DEVELOPMENT: CVs & RESUMES

VICKI TOY-EDENS


Space Sciences Laboratory
SSL
UC Berkeley ssi.berkeley.edu
BERKELEY LAB
STScI | SPACE TELESCOPE SCIENCE INSTITUTE
PRECISETARGET
APL
JOHNS HOPKINS
APPLIED PHYSICS LABORATORY
2005
2011
2019
2017
2022
Cal
NASA
UNIVERSITY OF MARYLAND
18 56
NASA
PROTENUS®

INDUSTRY VS. ACADEMIA

	Industry	Academia
Compensation	$$$	$
Pace	Fast	Slow
Team Size	>5-10	~1-3
Stakeholders	Customers, executive team	(Proposal committees), research group
Focus	Making the company money	Scientific inquiry
Independence	Varies	Self-driven

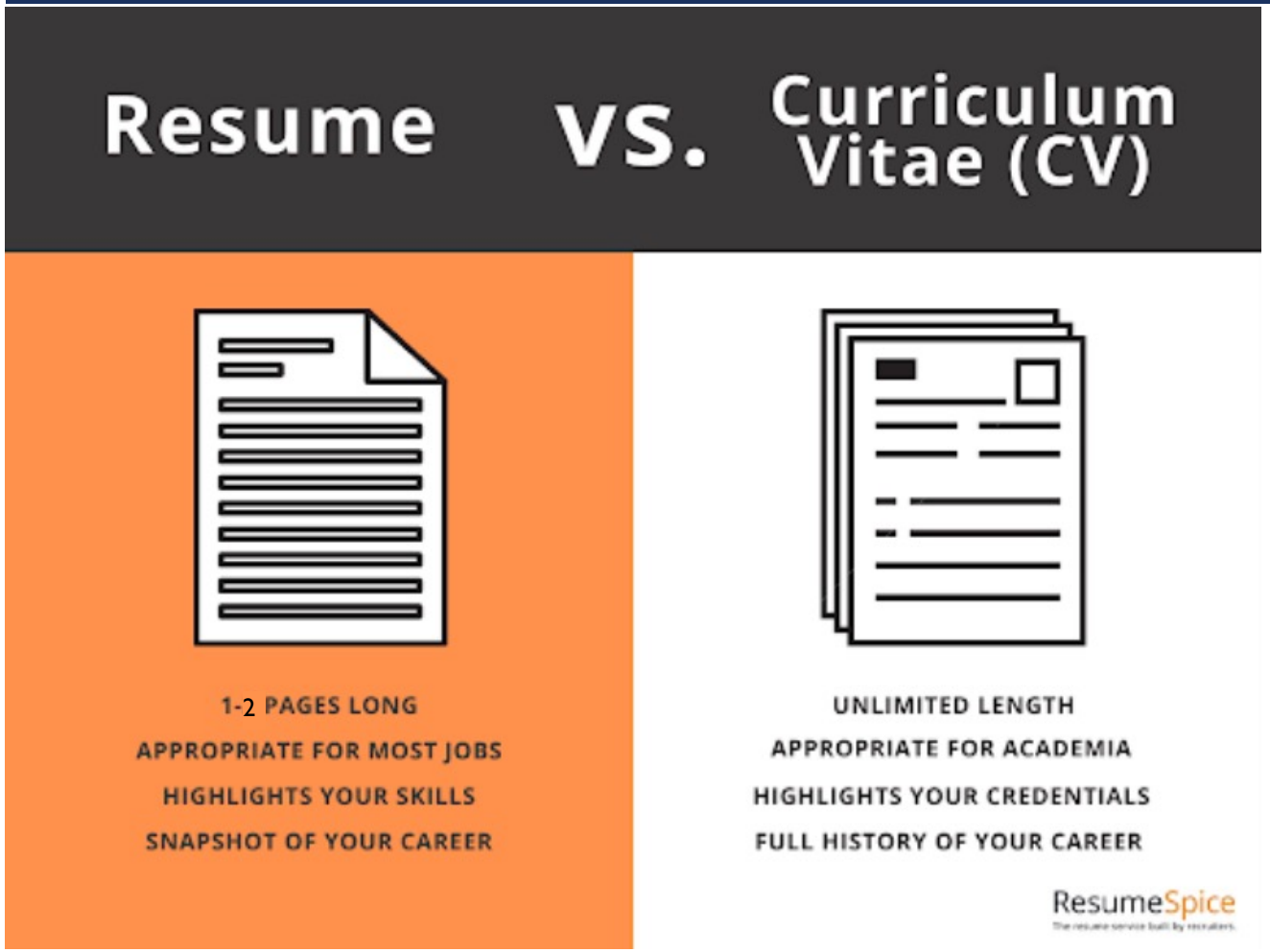
Same analysis techniques but with different applications, there are jobs inbetween

COMMON MISCONCEPTIONS

- Misconceptions of Industry from Academia
  - In industry there is no autonomy on what you work on
  - Everything is easier in industry (Plan B)
  - Someone who goes into industry cannot come back to academia
  - Industry jobs require doing something you hate
- Misconceptions of Academia from Industry
  - Academics only have theoretical experience and their lack of work experience is a liability
  - Academics will have trouble adjusting to the change of pace
  - Academics are not used to delivering results

CAREER PATHS

DIFFERENCE BETWEEN CV AND RESUME



- Length & Detail
  - Everything you've ever done > CV > Resume
- Customization
  - Resume – Tailored to job
  - CV – Full history
- When to use one vs. the other?
  - Generally breakdown between academic and industry jobs
  - If academia, good to maintain both (sometimes need shortened version for proposals)

AUDIENCE

- Imagine who will be reading your CV/Resume
  - Hiring manager / Recruiting / Head Hunter / Proposal Reviewer / etc.
  - 100s and 1000s of applicants, average time spent on a resume is 6-7 seconds
  - Bots, chat gpt filtering
    - Buzz words/Keywords
  - Easy scan with depth
- Highlight things relevant to job, multiple versions based on the job
- Don't use jargon
- Cover letters can be useful sometimes
  - Be genuine, specific
  - Answer why should they be interested in you? And so what?

FORMATTING

- Only hard and fast rule is **no errors** (typos, same tense, same formatting – font, coloring, etc.)
- Make it easy to read
  - Can start with templates and modify as you go
- Order matters, most important section and info at top
  - Experience reverse chronological – 3-5 bullets
  - Top bullet most important
  - Be less verbose – edit yourself
  - As time goes on, education less important

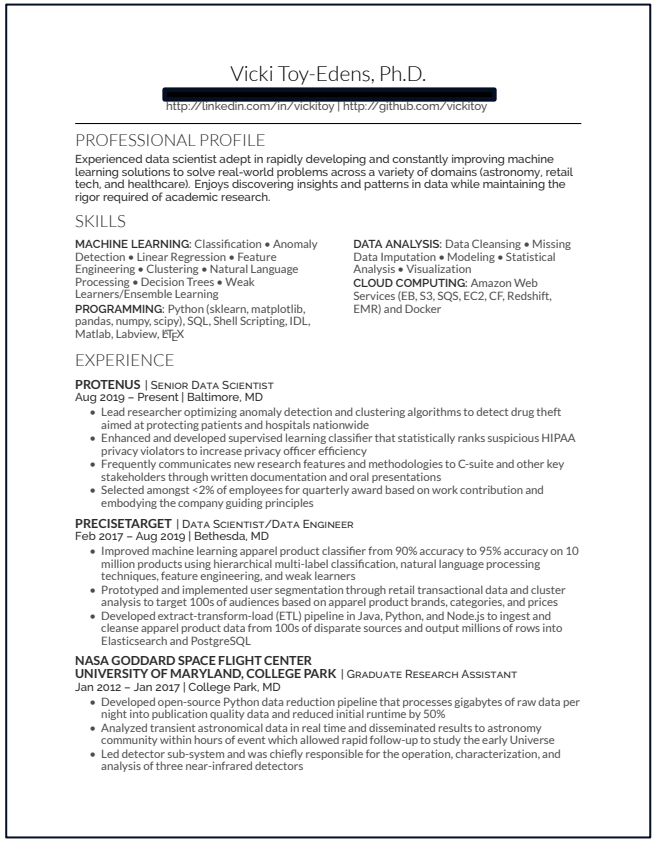
PROFESSIONALISM

- Not politically controversial
- Don’t list givens – e.g. punctual
- Use your professional contact info, not coolkitty@hotmail.com
- (Opinion varies) Minimal personal activities unless outstanding

SECTIONS

- CV examples
  - Contact Info
  - Education
  - Research Interests
  - Research/Professional Experience
  - Selected Publications (First author → highlighted)
  - Awards/Honors
  - Won Proposals ($$$ and selectivity)
  - Selected talks
  - Service/Outreach
  - Teaching/Leadership
- Resume examples
  - Contact Info
  - (optional) Professional profile
  - Skills
  - Professional Experience
  - Education

MY RESUME



Vicki Toy-Edens, Ph.D.

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http://linkedin.com/in/vickitoy | http://github.com/vickitoy

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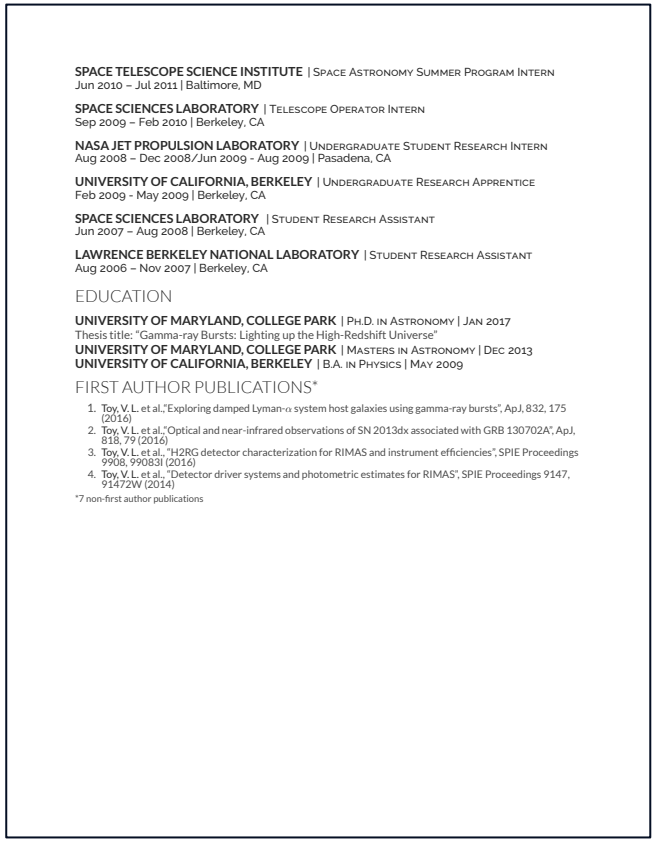

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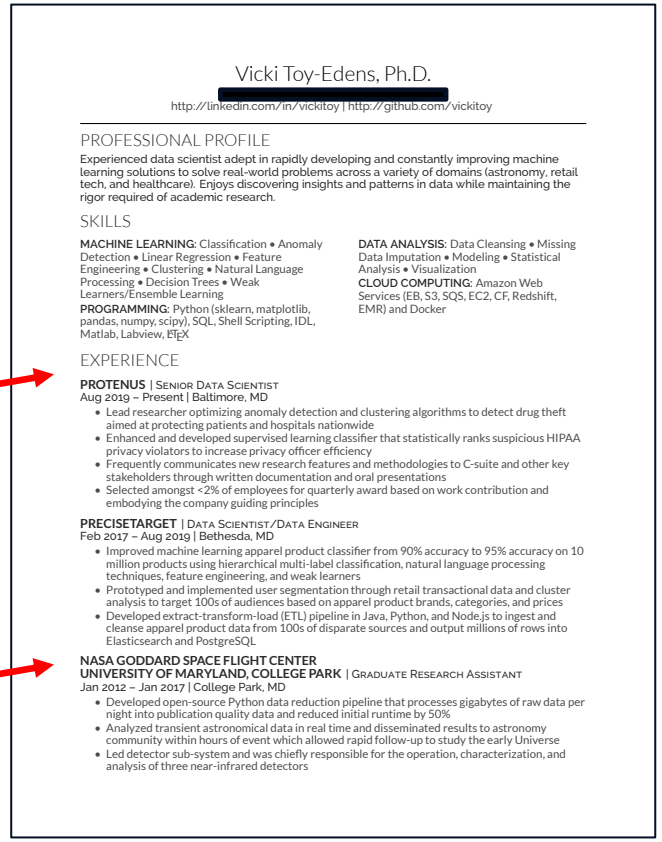
*7 non-first author publications

- My sections
  - Contact info
  - Professional Profile
    - Useful to give context for my history in academia
  - Skills
  - Experience
    - Reverse chronological with same formatting (Place, Title, Dates, Location, Highlights)
  - Education
    - Reverse chronological (Location, Degree/Field, Date)
  - Selected publications
    - This can be surprisingly helpful in industry but can also be a liability

CRITIQUES OF MY RESUME

Not updated with newest position

Institutions highlighted above position title



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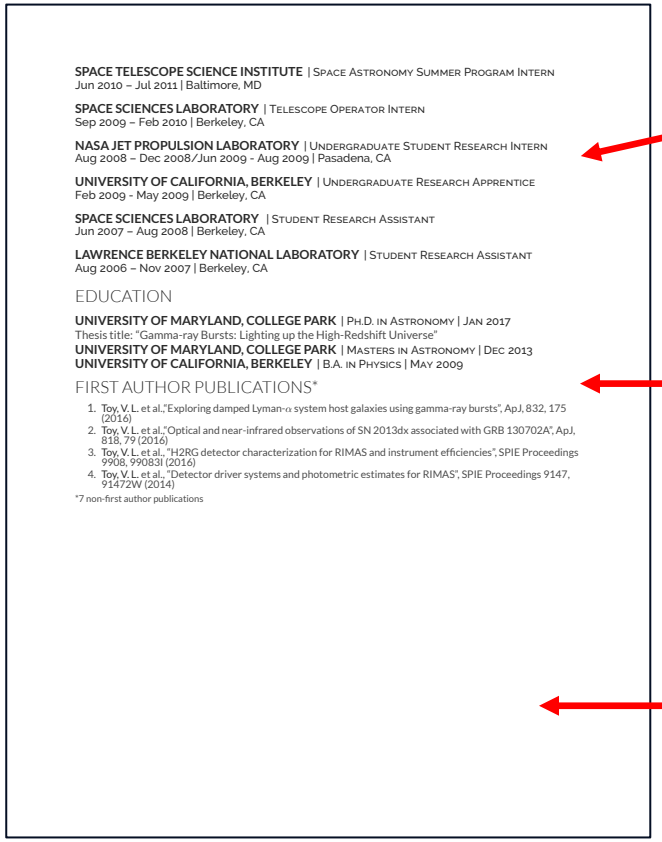

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Stale positions

Necessary for my position?

Doesn't fill the page

MY RESUME

1-2 sentences to frame resume, not always necessary

Relevant skills, this section along with experience section can help with keyword filters. Can customize this to the position you are applying to

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Newest to oldest positions. 3-5 bullets apiece for the most recent. Add context, cannot assume everyone looking at your CV/resume knows the relevance of what you've done

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MY RESUME

Provide context about the company and specific role, don't take this info for granted, others don't know what you are actually working on

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MY RESUME

Not necessarily the things that I spent the most time on, but the most relevant things to jobs I want, top bullet is most important to current positions

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MY RESUME

Older positions get no or very little detail. Can drop old positions but sometimes is useful to make connections with people who want to hire you. After a certain amount experience you can drop these or remove detail

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MY RESUME

For early career you may want to move this section to the top to level set that you are early career, later on in your career this becomes less relevant than your Work/Research experience

In industry YMMV

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UNIVERSITY OF MARYLAND, COLLEGE PARK | MASTERS IN ASTRONOMY | DEC 2013
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SPECIFIC >> GENERIC
RESULTS >>> STATEMENTS

- Focus on outcomes or results
  - Be specific
  - Use hard numbers
- Provide context
- Don’t exaggerate
- Active not passive
- Strong action verbs
- Include scale
- Answer so what?

EXAMPLES

- **Before** Jargon, passive
  - Worked on a ground-based NIR imager and spectrometer for gamma-ray burst afterglow follow-up. Programmed real time board to generate digital clocks and biases for secondary detector using Labview RT and FPGA programs. Characterizing two HAWAII-2RG detectors that run on Leach electronics and one IRAC Spitzer Legacy InSb detector that run on custom Labview software. Programming data reduction and photometry pipeline. Integrating and testing equipment
- **After** Results, context, remove jargon
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EXAMPLES

- **Before** Generic, lack of contribution
  - Analyzes, improves, and automates machine learning product classifier that utilizes hierarchical multi-label classification, natural language processing techniques, feature engineering, and weak learners
- **After** Answers scale and the so what
  - Improved machine learning apparel product classifier from 90% accuracy to 95% accuracy on 10 million products using hierarchical multi-label classification, natural language processing techniques, feature engineering, and weak learners

LIVING DOCUMENT

- Find a template you like
  - Keep it clean
- Keep updated as you go
  - Revisit, helps with not as overwhelming and reflection
- Have different versions depending on the job you want

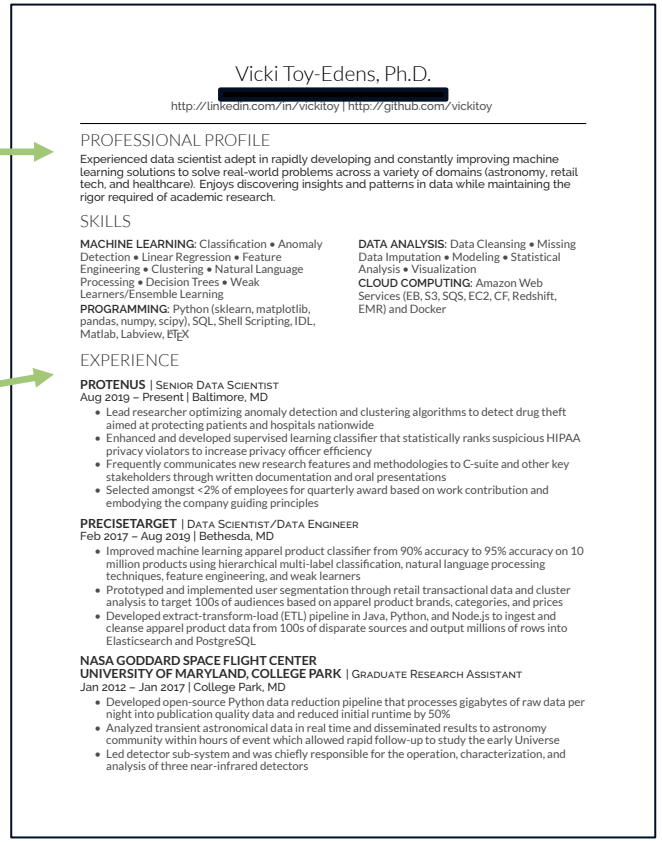
USE RESOURCES

- Look at job descriptions
  - Syllabus on what should be in your resume – just guidance though
- Look at people who have your dream job
  - See what skillsets you might need or didn't have
  - Remember though senior and junior CVs/Resumes do NOT look the same
- Ask for different people to review your resume
  - Informational interviews
- Build a network – this is you can get jobs
  - Lateral and vertical
  - Use tools like LinkedIn

MY RESUME

Explains how my different experiences fit together

Describes outcome of experiences in ways that are transferrable



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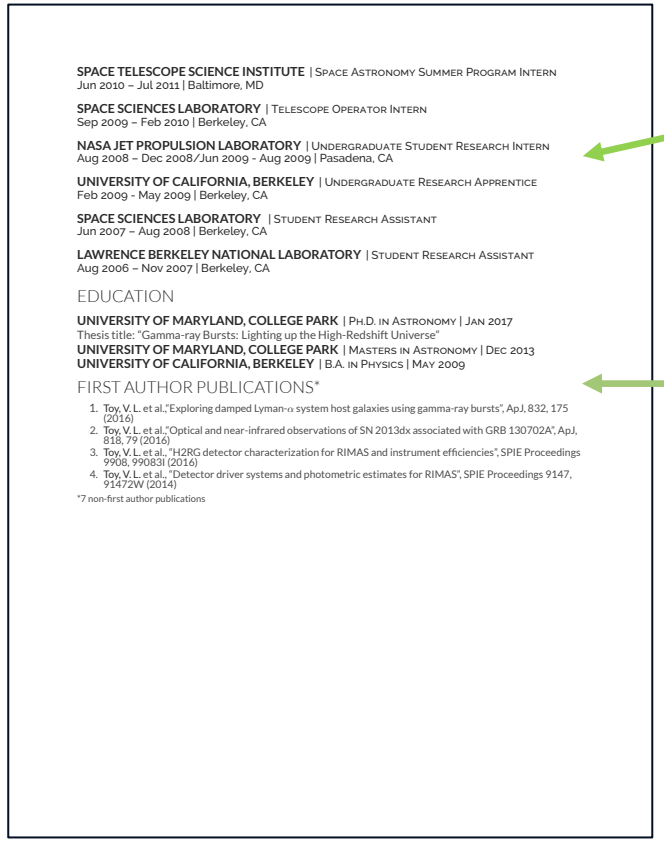

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Unexpected talking points

Useful for inbetween positions, unique in industry

I am one datapoint, there are many different ways to structure your resume

SMALL STEP

- First hurdle in process of getting a job
  - Weight of the CV/resume varies between companies, important if not other information about you
- Other steps:
  - Networking
  - Interviewing
    - Interpersonal skills
    - Teamwork
    - Technical tests
    - Presentations

Questions?

vickitoy@gmail.com

https://www.linkedin.com/in/vickitoy

Extra Slides

MY RESUME RIGHT BEFORE DEFENSE

Vicki Toy-Edens, Ph.D. candidate

http://www.astro.umd.edu/~vtoy

[redacted]

http://linkedin.com/in/vickitoy
http://github.com/vickitoy

PROFESSIONAL PROFILE

Highly motivated problem solver with excellent technical, analytical, and communication skills. Able to disseminate and understand complex information quickly and independently. 9+ years experience in data analysis, 9+ years work experience in scientific research, and 8+ years laboratory experience. Skilled hardware and software troubleshooter.

EDUCATION

UNIVERSITY OF MARYLAND, COLLEGE PARK | Ph.D. in Astronomy
Expected January 2017 | College Park, MD
UNIVERSITY OF MARYLAND, COLLEGE PARK | Masters in Astronomy
December 2013 | College Park, MD
UNIVERSITY OF CALIFORNIA, BERKELEY | B.A. in Physics
May 2009 | Berkeley, CA

SKILLS

Software:
Developed and tested end-to-end generalized data reduction pipeline
Hardware:
Expertise in NIR detector operation, testing, and analysis • Familiarity with laboratory equipment (ex. oscilloscope, multimeters, digital analyzers) • Experience with board layout • Proficient soldering skills
Programming:
Python (numpy, scipy, matplotlib) • IDL • Matlab • Labview • shell scripting • LaTeX
Oral Presentations:
Gave 7 research presentations to both expert and non-expert audiences. • Led 80 student discussion and laboratory sections weekly for a year.
Languages:
Native English Speaker

PROFESSIONAL EXPERIENCE

NASA GODDARD SPACE FLIGHT CENTER
UNIVERSITY OF MARYLAND, COLLEGE PARK | Graduate Student Assistant
January 2012 – Present | Greenbelt, MD/College Park, MD
[redacted]

- Software:
  - Developed an open-source modularized and generalized Python data reduction pipeline to process hundreds of raw images (gigabytes of data) per night into publication quality data with minimal user intervention. Successfully tested pipeline on two different currently operational instruments (RATIR and LMI) and reduced initial runtime by factor of 2.
  - Performed detailed data analysis on unique gamma-ray bursts leading to 2 first-author papers.
- Hardware:
  - Building, integrating, and testing ground-based near-infrared imager and spectrometer.
  - Lead of detector sub-system and chiefly responsible for the operation, characterization, and analysis of three near-infrared detectors (two HAWAII-2RG detectors, one InSb detector) leading to 2 first-author conference proceedings.
  - Programmed real-time board to generate timing and bias signals using Labview RT and FPGA programs.

SPACE TELESCOPE SCIENCE INSTITUTE | Space Astronomy Summer Program Intern
June 2010 – July 2011 | Baltimore, MD | Advisor: Rachel Osten

- Processed, modeled, and analyzed X-Ray data from low-mass stellar and substellar objects.
- Compiled data on the radiation of young brown dwarfs.

SPACE SCIENCES LABORATORY | Telescope Operator Intern
September 2009 – February 2010 | Berkeley, CA/Mount Wilson, CA
[redacted]

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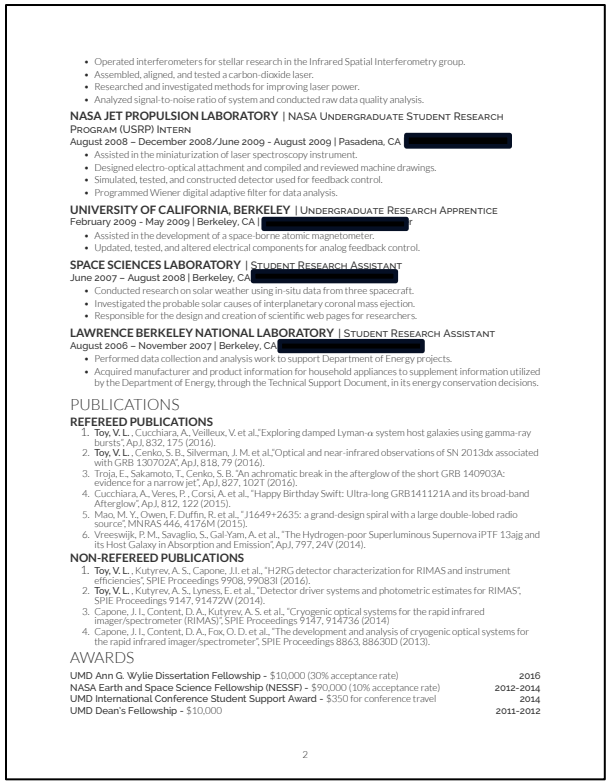

- Operated interferometers for stellar research in the Infrared Spatial Interferometry group.
- Assembled, aligned, and tested a carbon-dioxide laser.
- Researched and investigated methods for improving laser power.
- Analyzed signal-to-noise ratio of system and conducted raw data quality analysis.

NASA JET PROPULSION LABORATORY | NASA Undergraduate Student Research Program (USRP) Intern
August 2008 – December 2008/June 2009 - August 2009 | Pasadena, CA [redacted]

- Assisted in the miniaturization of laser spectroscopy instrument.
- Designed electro-optical attachment and compiled and reviewed machine drawings.
- Simulated, tested, and constructed detector used for feedback control.
- Programmed Wiener digital adaptive filter for data analysis.

UNIVERSITY OF CALIFORNIA, BERKELEY | Undergraduate Research Apprentice
February 2009 - May 2009 | Berkeley, CA | [redacted]r

- Assisted in the development of a space-borne atomic magnetometer.
- Updated, tested, and altered electrical components for analog feedback control.

SPACE SCIENCES LABORATORY | Student Research Assistant
June 2007 – August 2008 | Berkeley, CA [redacted]

- Conducted research on solar weather using in-situ data from three spacecraft.
- Investigated the probable solar causes of interplanetary coronal mass ejection.
- Responsible for the design and creation of scientific web pages for researchers.

LAWRENCE BERKELEY NATIONAL LABORATORY | Student Research Assistant
August 2006 – November 2007 | Berkeley, CA [redacted]

- Performed data collection and analysis work to support Department of Energy projects.
- Acquired manufacturer and product information for household appliances to supplement information utilized by the Department of Energy, through the Technical Support Document, in its energy conservation decisions.

PUBLICATIONS

REFEREED PUBLICATIONS

1. **Toy, V. L.** , Cucchiara, A., Veilleux, V. et al.,"Exploring damped Lyman-α system host galaxies using gamma-ray bursts", ApJ, 832, 175 (2016).
2. **Toy, V. L.** , Cenko, S. B., Silverman, J. M. et al.,"Optical and near-infrared observations of SN 2013dx associated with GRB 130702A", ApJ, 818, 79 (2016).
3. Troja, E., Sakamoto, T., Cenko, S. B. "An achromatic break in the afterglow of the short GRB 140903A: evidence for a narrow jet.", ApJ, 827, 102T (2016).
4. Cucchiara, A., Veres, P. , Corsi, A. et al., "Happy Birthday Swift: Ultra-long GRB141121A and its broad-band Afterglow", ApJ, 812, 122 (2015).
5. Mao, M. Y., Owen, F. Duffin, R. et al., "J1649+2635: a grand-design spiral with a large double-lobed radio source", MNRAS 446, 4176M (2015).
6. Vreeswijk, P. M., Savaglio, S., Gal-Yam, A. et al., "The Hydrogen-poor Superluminous Supernova iPTF 13ajg and its Host Galaxy in Absorption and Emission", ApJ, 797, 24V (2014).

NON-REFEREED PUBLICATIONS

1. **Toy, V. L.** , Kutyrev, A. S., Capone, J.I. et al., "H2RG detector characterization for RIMAS and instrument efficiencies", SPIE Proceedings 9908, 990831 (2016).
2. **Toy, V. L.** , Kutyrev, A. S., Lyness, E. et al., "Detector driver systems and photometric estimates for RIMAS", SPIE Proceedings 9147, 91472W (2014).
3. Capone, J. I., Content, D. A., Kutyrev, A. S. et al., "Cryogenic optical systems for the rapid infrared imager/spectrometer (RIMAS)", SPIE Proceedings 9147, 914736 (2014).
4. Capone, J. I., Content, D. A., Fox, O. D. et al., "The development and analysis of cryogenic optical systems for the rapid infrared imager/spectrometer", SPIE Proceedings 8863, 88630D (2013).

AWARDS

UMD Ann G. Wylie Dissertation Fellowship - $10,000 (30% acceptance rate)	2016
NASA Earth and Space Science Fellowship (NESSF) - $90,000 (10% acceptance rate)	2012-2014
UMD International Conference Student Support Award - $350 for conference travel	2014
UMD Dean's Fellowship - $10,000	2011-2012

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2. **Toy, V. L.** , Kutyrev, A. S., Lyness, E. et al., "Detector driver systems and photometric estimates for RIMAS", SPIE Proceedings 9147, 91472W (2014).
3. Capone, J. I., Content, D. A., Kutyrev, A. S. et al., "Cryogenic optical systems for the rapid infrared imager/spectrometer (RIMAS)", SPIE Proceedings 9147, 914736 (2014)
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