



# Jonathan Madajian

Santa Barbara, CA  
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**Engineering**

## Education:

University of California Santa Barbara (UCSB, Sept. 14- June 18)

- BS in Electrical Engineering
  - Emphasized in electronics and photonics with cleanroom experience
  - Additionally completed sophomore mechanical engineering curricula

## Professional Experience:

Special Technologies Laboratory, Engineer I (July 2018-Present) 40+ hours per week Santa Barbara, CA

- Consult, design, assemble, and field deploy optical, mechanical, electrical, and photonic systems.

AIM Photonics UCSB Integrated Photonics Laboratory, Research Intern (June 16-June 18) Santa Barbara, CA

- Programed an embedded hardware driver for deep space laser communication
  - Xilinx Virtex-6 ML605 using ISE in Verilog to test a photonics integrated circuit (PIC)
- Attended and presented weekly talks on research and photonics

UCSB Experimental Cosmology Group, Research Supervisor (March 15-Present) Santa Barbara, CA

- Supervise and mentor both high school and undergraduate researchers (5-8 teams of 3-20 students)
- Perform finite element analysis (FEA) of directed energy on asteroids using Comsol Multiphysics
- Led the design and construction of an FTIR experiment (vacuum chamber, lenses) (11 researchers)
- Awarded NASA California Space Grant (Oct. 15, June 17, and March 18)

Necsel Intellectual Property, Quality Assurance Intern (June 17-Sept. 17) Milpitas, CA

- Executed, improved, and documented a workflow for collecting quality assurance (QA) data on various lasers in a cleanroom using an optical spectrum analyzer (OSA)
- Acquired, soldered, and assembled custom cables for a laser projection installation

Multiplex Engineering, Electronics Technician (Sept. 14-Dec. 15) Goleta, CA

- Assembled and repaired automotive diagnostic interfaces and cables (oscilloscopes and multimeters)
- Wrote technical procedures for product assembly

ZeroAstro, Technical Lead (March 2017-Present) Burbank, CA

- Assembled and flew a hexacopter for space research
- Consulted on anti-shark technology for a Discovery Channel Shark Week special: Mayne vs Shark

Santa Barbara City College, Tutor (Sept. 14-Dec. 14) Santa Barbara, CA

- Tutored 40 engineering students in mechanical drafting and AutoCAD

## Conference Proceedings

SPIE Optics and Photonics annual conference San Diego, CA

- Remote Laser Evaporative Molecular Absorption (R-LEMA) spectroscopy laboratory experiments (1<sup>st</sup> author, presented, Aug. 18)
- 1<sup>st</sup> author on two more papers and coauthor on ten additional papers (Sept. 15-Present)

## Leadership Experience:

UCSB IEEE Student Branch (Oct. 14-June 18) Santa Barbara, CA

- External Vice President: develop and distribute a corporate sponsorship package (Sept. 17-June 18)

Photonics Society at UCSB (IEEE/OSA/SPIE, Oct. 16-June 18) Santa Barbara, CA

- Media Committee Chairman: advertise and photograph events (Sept. 17-June 18)

Boy Scouts of America (Sept. 06-Present) CA

- Eagle Scout: led construction of a 50' suspension footbridge (over 30 volunteers, Aug. 11-Aug. 12)

## Skills: sorted by proficiency

- Adobe Premiere, Arduino, AutoCAD, Matlab, MS Office, Windows OS
- Comsol Multiphysics, LaTeX, Python, SolidWorks, Verilog (Xilinx ISE)
- BeamGage, C++, FRED, LabVIEW, Maple, OriginPro, Pascal, TK Solver

References and portfolio available upon request

Proud American citizen



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[IMDb.com/name/nm7861075](https://www.imdb.com/name/nm7861075)

## Moviemaking

*Plasmid*, short thesis film (June 2018-Non. 2018) Burbank, CA

- A young nurse must fight for her life when her house is invaded by an unearthly intruder.
- Release anticipated in mid-2019 and shot on RED and Sony A7S ii
- Camera operator, assisted several departments (lighting, sound, SFX, etc.); credited as 2<sup>nd</sup> AD
- [IMDb.com/title/tt9062328](https://www.imdb.com/title/tt9062328)

*Mayne vs Shark*, Shark Week Special produced by Discovery Channel (Nov. 2017-May 2018) Las Vegas, NV

- A magician evades sharks using an underwater invisibility suit
- Engineering consultant, boom operator, BTS, and 2<sup>nd</sup> unit camera operator
- Release anticipated in July 2019 and shot on RED and Panasonic GH5

*Mirror of My Soul*, feature produced by Samala Motion Pictures (Oct. 2015-Oct. 2017) Santa Barbara, CA

- Twins struggle with addiction, redemption, and brotherly love.
  - “Inspired by true life events, "Mirror of My Soul," a faith-based story carefully gathers and meshes the lives of two brothers, twins, bridged together by the incredible force of love, forming a multi-layered plot where questions of inner struggle and faith are depicted.”
- Release anticipated in early 2018 and shot on the Blackmagic URSA Mini 4.6K
- Mentored the 2<sup>nd</sup> AC, boom operator, and script supervisor
- Designed and operated a data station on set that successfully processed over 50TB of footage
- Planned shoots with producers then generated and distributed call sheets to the cast and crew of 50
- [IMDb.com/title/tt5343044](https://www.imdb.com/title/tt5343044)

*Redemption of the Heart*, feature produced by RLT Pictures (Apr. 2011-Sep. 2014) Santa Barbara, CA

- Scarred by betrayal, a desperate man cons churches until he receives a second chance.
  - “Alex Montoya, a man who has fallen away from the Christian faith, finds himself in a destructive relationship and in financial debt which causes him to become involved in various con jobs. Jacob, a Christian man, offers Alex a better way to live his life in hopes of allowing Alex to change his ways and reconnect with God.”
- Released March 11, 2014 and shot on the Canon XF105, T2i, and 5Dmkii
- Gained holistic knowledge of the independent filmmaking process from a graduate of Brooks Institute
  - Lighting, boom operation, camera, etc.
- Filmed promotional material and aided a successful marketing campaign that resulted in filling all 2,000 seats at the premiere and raising \$11k on Kickstarter to complete the film for distribution
- [RedemptionOfTheHeartTheMovie.com](http://RedemptionOfTheHeartTheMovie.com)

Independent Videographer (Sept. 2008-Present) Santa Barbara, CA

- Produce, film, edit, and assist with events, weddings, and promotional videos (teams of 1-3)
  - Arri Fresnels, Adobe Premiere, BMCC, BMPC 4K, and Canon XF305 and 6D, DJI Ronin, and Panasonic GH4 and GH5
- [Madajian.com/Video](http://Madajian.com/Video)

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