

Julia Di

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EDUCATION

Columbia University, New York, NY, USA

B.S. in Electrical Engineering | Minor in Computer Science

Aug 2014 – May 2018

Cumulative GPA: 3.87 / 4.00 (Dean's List all semesters)

- Courses: Classical Controls, Digital Signal Processing, Advanced Programming (C/C++), Data Structures (Java), Circuit Analysis, Electronic Circuits, Solid State Devices and Photonics

RESEARCH EXPERIENCE

Creative Machines Lab, Columbia University

Undergraduate Research Assistant, Mechanical Engineering Department

Sep 2016 – present

- Built a 3D-printed quadruped with image recognition capabilities as a machine learning platform
- Programmed a deep learning neural network on a Raspberry Pi for image recognition

Sia Lab, Columbia University

Undergraduate Assistant, Biomedical Engineering Department

Sep 2015 - Dec 2015

- Rapidly prototyped molding device to culture self-vascularizing tissues for critical limb ischemia

Columbia Laboratory for Unconventional Electronics, Columbia University

Undergraduate Research Assistant, Electrical Engineering Department

Jan 2015 – May 2015

- Designed and constructed an ion sputterer to microfabricate thin-film bulk acoustic resonators

WORK EXPERIENCE

Lockheed Martin Space Systems, Sunnyvale, CA, USA

Electro-Optical Engineering Research Intern

Jun 2017 – Aug 2017

- Developed algorithms on FPGAs for aerial realtime onboard image processing capabilities
- Conducted trade study to develop additional onboard processing capabilities for future research

NASA Marshall Space Flight Center, Huntsville, AL, USA

Robotics Academy Research Associate

Jun 2016 – Aug 2016

- Designed and tested a 3 DOF robotic arm with electrostatic gripper to capture orbital debris
- Developed electronics and control algorithms, and tested with air bearings on MSFC's flat floor

Carleton Laboratory, New York, NY, USA

Undergraduate Laboratory Assistant

May 2015 – Aug 2015

- Machined hundreds of samples of novel composite structure for infrastructure use by client
- Analyzed and wrote 300+ pages of final report for client with graduate student project leader

PRESENTATIONS

1) O. Kedar, C. Capper, Z. Chen, J. Di, et. al. "Spyndra: An Open-Source Proprioceptive Robot for Studies in Machine Self-Awareness." Poster presented at *Naval Academy Science and Engineering Conference*, Annapolis, MD, Nov 2017.

2) J. Di. "Towards Onboard Hypertemporal Imaging." Poster presented at *Lockheed Martin Intern Session*, Sunnyvale, CA, Aug 2017.

3) J. Di, C. Grohol, A. Kahn, and K. Waychoff. "Electrostatic Detainment Unit for Automated Removal of Debris in Orbit (EDUARDO)." Poster presented at *NASA Intern Session*, Huntsville, AL, Aug 2016.

GRANTS

1) NASA / NY Space Grant | "The CUbeSat Initiative: An Effort to Cultivate an Experiential Learning- Based Aerospace Program", I. Kymissis (PI). For \$10,000 over 1/3/2017 - 12/31/2017.

SERVICE

Presented over 10 times on space engineering and robotics at: The Intrepid Sea, Air, and Space Museum (2016, 2017), New York Hall of Science (2016), Double Discovery Center (2016).

SELECTED LEADERSHIP EXPERIENCE

Columbia Space Initiative, Columbia University

Co-Founder and Co-President

Sep 2015 – Mar 2017

- Organizes keynote speaker events, workshops, and technical space projects for 60+ members
- Led cubesat team in 2015 - 2016 with Professor Ioannis (John) Kymissis
- Accepted to three technical NASA challenges and featured in University's Fall 2016 magazine
- Winner of Zvi Galil Award for Improvement in Engineering Student Life in Spring 2017

Women in Computer Science, New York, NY, USA

President

Apr 2015 – present

- Initiate and manage events with tech companies and startups to promote women in tech
- Encourage women to stay within the department (became 45% female in Fall 2017)

Columbia MakerSpace, Columbia University

Superuser

Apr 2016 – present

- Responsible for weekly office hours to teach students about prototyping and 3D printing skills

Formula SAE (Knickerbocker Motorsports), New York, NY, USA

Electronics and Carbon Fiber Engineer

Sep 2015 – Sep 2016

- Design electronics, manufacture foam molds, and perform carbon fiber lay-ups

HONORS

Tau Beta Pi, Columbia University

Oct 2017

- Recognized for scholarship (top fifth of class), integrity, breadth of interest, and unselfishness

King's Crown Leadership and Excellence Award, Columbia University

Apr 2017

- Recognized for implementing sustainable change and lasting impact on the campus community.

National Residence Hall Honorary, Columbia University

Apr 2017

- Membership by nomination only for leadership and vision on campus

Aviation Weekly's Top 20 Twenties Laureate, Aviation Week Magazine

Dec 2016

- Identified as next-gen leader in aerospace engineering research (out of an international pool)

Gold Key, Scholastic Arts and Writing Competition

Jan 2013, Jan 2014

The nation's most prestigious pre-collegiate art/writing competition (2,000 winners of 200,000).

AWARDS

Women in Aerospace Scholarship, Women in Aerospace Foundation

Aug 2017

SWE-NY Scholarship, SWE

May 2016

FCA Women in Engineering Scholarship, SWE

May 2016

Microsoft Scholar, Microsoft

Mar 2016

Orbital Sciences Full Scholarship, Orbital Sciences

May 2014

PROFESSIONAL AFFILIATIONS & ACTIVITIES

Society of Women Engineers, Chicago, IL, USA

2017 – Present

American Institute of Aeronautics and Astronautics, Reston, VA, USA

2016 – Present

LANGUAGES

Python • C/C++ • Verilog • VHDL • MatLab • L^AT_EX • HTML • Java • LabView

SKILLS

3D Printing • Amateur Radio • Cadence • FPGAs • Git • Microcontrollers • PCBs • Soldering