

Dr. Joseph P. **Robinson**

Researcher & Entrepreneur (Co-Founder) · AEyeZone

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"Be like water making its way through cracks. Do not be assertive, but adjust to the object, and you shall find a way around or through it. If nothing within you stays rigid, outward things will disclose themselves." –Bruce Lee

Focused on ML research, typically with visual signals, some multi-modal. Experienced data scientist - data recognition and understanding, landmark detection, generative modeling, learning with minimal or imbalanced, and the byproduct of bias in ML with consideration to its impact on society, multi-modal databases (*i.e.*, acquiring, designing, collecting, organizing, annotating, evaluating). Often, the object of interest is facial images. However, a signal is a signal. I am passionate about applying technical skills to improve a concept, product, or system deployed to improve day-to-day society, whether security, entertainment, or advancement in HCI technology. I like playing for a strong team - I know how to take the initiative when delegated, yet facilitate when leading. Experience joining diverse groups, team building, handling logistics, and measuring practical significance. Competent writer, especially in the form of research and proposals. Fluent communicator, whether technical, formal, or informal. I have acquired a vast professional network - familiarized and often personally, with many experts throughout the technological and entrepreneurial worlds. I am big on learning and love teaching and building. It is what I do.

Education

Northeastern University

Boston, MA, USA

Ph.D. in Computer Engineering — *Jan. 2015 - Dec. 2020*

- Dissertation, which includes 35+ papers with 500+ citations and my involvement in the global community.
- *In summary:* Under Dr. Yun (Raymond) Fu, as an integral part of SMILE Lab and supported as an ALERT DHS STEM Career Development & Research Fellow, researched pattern recognition and data synthesis from various signal types. Cutting-edge work in big data for automatic face understanding (*e.g.*, [4, 14, 21]) by introducing image and video databases with novel deep learning techniques as benchmarks; hosted several data challenge workshops to promote and attract researchers to the problem (*e.g.*, [8]). Besides, research topics included, but were not limited to, big data recognition and understanding, landmark detection, generative modeling, learning with minimal or imbalanced data, bias in ML with consideration to its impact on society, and the construction of multi-modal databases (*e.g.*, [3, 9]).
- Vast soft skills acquired: being active in diverse groups, team building, handling administration, and measuring practical significance; becoming a competent writer, especially in the form of research and proposals, and an all-around fluent communicator, whether in a technical, formal, and informal, and acquired a vast professional network - familiarized, and often personally, with many experts throughout the technological and entrepreneurial worlds. An experience that helps reveal my passion for learning, teaching, and innovating.
- *Activities:* Ph.D. Council member, IEEE student chapter advisor, ECE Department Representative, Gordon Scholar Program, and the Secretary and later the Research Ambassador *Student Research Engagement Committee*, an effort I helped start.
- *Key courses:* Advances in Deep Learning, Applied Probability & Stochastic Processes, Parallel Processing Data Analysis, Advanced Pattern Recognition, Machine Learning, 2D Signal & Image Processing, Human-Centered Computing, Principles of Assistive Robotics, Advanced Computer Vision, Fundamentals of Computer Engineering.

Northeastern University

Boston, MA, USA

Part-time Faculty — *Jan 2017 – Dec 2020*

- Designed curriculum (*e.g.*, syllabus, lectures, assignments) for an undergraduate course, Comp. Methods for Data Analysis.
- Lectured via PowerPoint, board work, code demos, and group activities.
- Emphasized practical use cases and project-based assignments to accelerate the transition from learning to applying.
- Covered vast topics: Python basics, Python for data science (*e.g.*, NumPy, Pandas, Seaborn, SkLearn), exploratory data analysis, data types, regression-based modeling, classification, data visualization, and intro to deep learning.
- Offered supplemental workshops for students throughout the semester: how to build technical PowerPoints, write a technical paper, and resume critique (post-semester, as a means to enhance student resumes and experiences).
- I was awarded *Best Teacher* (2019-20) of the Department of Electrical and Computer Engineering via the College of Engineering.
- Served as a T.A. in Image Processing, lead lecturer for the Electronics lab, and guest lecturer for Data Visualization.

Northeastern University *Boston, MA, USA*

B.S. in Electrical and Computer Engineering *Jan. 2011 - May 2014*

- *In summary:* served as an RA in the Optical Science Lab and NUCAR, including two summers of NHS REUs.
- ECE Department winner for Senior Capstone Competition, 1st Place (05/2014).
  - Designed and built a semi-autonomous robot for Mass-DOT to inspect tunnels remotely. Handled interface (and GUI), communications (*i.e.*, base, live-video, camera), image processing, Raz Pi / Arduino & H.W. components, data collection.
- ECE Department winner for Freshman Remote Control Design Contest, 1st Place (05/2011).
- *Key courses:* Robotics, Computer Vision, Computer & Telecomm Networks, Data Visualization, Communication Systems, E-Mags Fields & Waves, Computer Architecture & Organization, Noise & Stochastic Processes, Advanced Tech. Writing, Optimization Methods, Electronics (intro, I, and II), Prof. Issues in Engineering, Algorithms, Data Structure, and Algorithms.

Teaching Experience

Machine Learning, Tufts University *Medford, MA*

Part-Time Faculty *January 2023 - CUR*

- Teaching *Introduction to Machine Learning* on-campus.

Computational Methods for Data Analysis, Northeastern University *Boston, MA*

Part-Time Faculty *January 2018 - June 2019*

- Awarded *Best Teacher* by the Electrical and Computer Engineering Department of NEU.
- Designed course curriculum: syllabus, lectures, supplemental material, assignments.
- Lectured via power-point, board work, code demos, and group activities.
- Incorporated practical use cases and course projects in various aspects of the course.
- Covered vast topics: Python basics, Python for data science (e.g., numpy, pandas, seaborn, sklearn), exploratory data analysis, types of data, regression-based modeling, classification, data visualization, introduction to deep learning.
- Offered supplemental workshops for students throughout the semester: how to build technical power-points, how to write technical papers, and resume critique to get class experience into student resumes.

Machine Learning for Image Processing *Boston, MA*

Teaching Assistant, Part-time Lecturer *Summer 2019*

- Handled grading, held office hours, filled in several class sessions as a lecturer.
- Created project list for students to choose from and then supported their progress.

Electronics Lab, Northeastern University *Boston, MA*

Teaching Assistant, Lab Lecturer *Sep. 2019 - Dec. 2019*

- Guided students through hands-on assignments in circuit design and breadboard prototyping.
- Graded pre-labs and lab reports.

Academic Resource & Tutoring Center, Northern Essex Community College *Haverhill, MA*

Peer Tutor, TA, and SI *Jan. 2009 - Dec. 2010*

- Held numerous Teaching Assistant (TA) and Supplemental Instructor (SI) positions for various math courses.
- Tutor of different subjects, i.e., advanced trigonometry, Calculus (I, II, III), chemistry (I & II), US History (I & II).
- Worked nearly 4-fold to grow (in students and room size, as a bigger room met higher demand).
- Organized structure for tutors to follow to best suit student needs.
- Certified as a Level 1 tutor through the College Reading and Learning Association.

Industry

Northeastern University *Boston, MA*

Machine Learning Performance Engineer *January 2023 - CUR*

- A member of Research Computing supporting the development of ML models for faculty & research groups on the HPC cluster.
- Improve the reliability and efficiency of GPU-based S.W. while optimizing the performance of ML models on our HPC .

AEyeZone

Boston, MA

Co-Founder — *July 2022 - CUR*

- Fusing my past experiences as a contractor with my AI expertise to launch a startup for *on-site explainable AI*.
- Worked closely with Dr. Yun Raymond Fu, a co-founder, to brainstorm ideas and compile a pitch deck.
- Conducted market analysis, identifying target markets, and worked with venture capitalists to finalize funding for our first round (*i.e.*, pre-seed). Of course, strengthening my business skills and knowledge of startups along the way has been required.
- Our venture is in its early stages: to learn more, visit https://www.aeyezone.com/.

Vicarious Surgical

Waltham, MA

AI Engineer, Team Perception — *March 2021 - July 2022*

- Built depth perception system (*i.e.*, monocular, stereo, and MVS) for 3D reconstruction from images and videos. Completed lit review and presented a four-part series of the SOTA to find the best for our surgical endoscope (*i.e.*, human tissues and organs seen by the robotic arm). Upon delivering, I worked with the research team to deploy SW packages as part of a prototype hand-held device, proving it was effective at generalizing and easily portable. The system was implemented in C++ and CUDA, optimizing it to run on NVIDIA's Jetson.
- Implemented SOTA deep models and post-processing to estimate the depth and confidence maps at the target fps.
- Acquired labeled data to report ratings for our robot–data capture required learning ROS and Gazebo. Designed and collected both simulated and real datasets to train and fine-tune deep models via multi-task and transfer learning; then precisely measured system performance (*i.e.*, characterize and find shortcomings).
- Standardized data collection and specifications by creating a Datasheet template.
- Learned Confluence, managed spaces, and create macros and templates. Created a Data Factory Space with the Datasheet template, dataset exploration, how-to's (*e.g.*, camera calibration), and more; organized and led weekly paper studies, which matured into a computer vision study.
- Other contributions include, but are not limited to, the design and implementation of a virtual assistant to control the surgical robotic via voice commands: built both word and character-level, as the latter proved more extendable and generalized best to the surgical domain. Designed and coded virtual assistant using NVIDIA's RIVA.

ISMConnect

Cambridge, MA

Research Intern, Vision Group — *May 2019 - August 2019*

- Acquired a deep understanding of bias in facial recognition technology (*i.e.*, "Fairness in ML")– all founded on fundamental concepts of signal detection theory [5, 7].
- Improved SOTA deep CNNs (*i.e.*, ArcFace) by balancing performance across different demographics.
- Built image dataset and demo code to evaluate data balanced across different demographics [web].
- Provided tools, protocols, and baselines for future efforts to use and extend.

Snap Inc (Snapchat)

Santa Monica, CA

Researcher Intern, Research Team — *May 2018 - Aug. 2018*

- Implemented a novel state-of-the-art face landmark detection model (reduced storage and real-time speed [14].
- Proposed LaplaceKL loss function: loss function that extends the renowned soft-argmax with additional statistics to yield heatmaps of higher confidence (*i.e.*, precision) and, thus, improved accuracy.
- Trained with few labeled samples and many unlabeled using adversarial learning based on produced heatmaps.
- Explored reduced sizes - competitive with SOTA using a model of just 170KB and runs in real-time (*i.e.*, >20 fps).
- The model was later a critical component in a patent and was deployed as part of a Snapchat update.

Systems & Technology Research (STR)

Woburn, MA

Research Intern, Vision Group — *May 2016 - Sep. 2017*

- Work as part of IARPA's Odin Program (Phase I) during the Summer of 2017.
  - Designed and implemented a Python API for adversary attacks on ML models.
  - Assessed adversary attacks (black-box regime) using different state-of-the-art CNNs for face recognition.
- Work as part of IARPA's JANUS Program (Phase II) during the Summer of 2016.
  - Developed C++ clustering API that was used to generate results for NIST data calls.
  - Implemented Product Quantization and NN search via IFS: 200x speedup with negligible performance drop.

MIT Lincoln Labs (MIT-LL)

Lincoln, MA, USA

Engineering Intern, Video & Image Understanding — *May 2014 - Aug. 2014*

- Led joint-team (*i.e.*, SMILE and MIT-Lincoln Lab) in TRECVid debut — 3rd place in Multimedia Event Detection (MED'15) [22].
- Encoded videos with 2 pre-trained CNNs (*i.e.*, 1,000 objects & 360 scenes), fused features, and trained SVMs [20].
- Won 3rd place in MED'15-detect complex events in large corpus of videos with distractors & hard-negatives.

Raytheon BBN Technology

Cambridge, MA

DSP Engineering Co-op — *January 2013 - Sep. 2013*

- Worked on Helicopter Alert & Threat Termination-Acoustic System: Small arms detection for helicopters.
- Built JAVA tools to analyze audio data as part of the *User Tools* deployed for customer usage.
- Improved system from 86% to 92% via template matching.
- Staged simulation of different types of guns shooting data during flight tests as a means of collecting data.
- Developed MATLAB tools to analyze detection algorithms using signals generated with computers, collected at field tests, and logged by consumer systems.

Analogic Corporation

Peobody, MA

EE Image Reconstruction Co-op — *January 2012 - Sep. 2012*

- Focused on SW components: the critical image processing algorithms and detection functionalities integrated into a CT airport bag-scanner, with my contributions in the product transitioning from single-to dual-energy CT system.
- Created performance analysis reports for different GPUs, providing incentive for the company to upgrade the system.
- Optimized algorithms with GPGPU & Intel Vector library to reduce HW requirements (3-to-2 computers).
- Built ImageJ plugin for analyzing image sets (test outputs): created GUI interface, picked appropriate data structures, designed database for recording progress, and automated report generation at the user level and company.
- Built sister plugin to train and certify employees in data analysis and proper understanding of possible threats: upon completion of training and test modules, the individual was then trusted to analyze field results and tag training data.

Joe Robinson Construction

Salisbury, MA

Business Proprietor — *August 2005 - Dec. 2008*

- Started and ran a company, which included but was not limited to working with customers to design and plan projects, hiring and managing employees, weekly payroll, maintaining tools and advertising.
- Obtained Massachusetts Construction Supervisor License and Home Improvement Contractor License.
- Specialized in residential projects: new construction, roofs, siding, and decks.

Research Experience

Synergistic Multimedia Learning (SMILE) Lab, Northeastern University

Boston, MA

Research Assistant — *Jan. 2014 - CUR*

- Designed, built, and provided benchmarks for our Families in the Wild (FIW) dataset [3, 16, 21]
- Pushed SOA of kinship verification [19] and family classification [17] on FIW data.
- Organized the Recognizing FIW (RFIW) data challenge series at top conferences (*i.e.*, 2017 as ACM MM Data Challenge Workshop and 2018, 2019, and 2020 as FG Challenges) [8, 18], Tutorials (2018 ACM MM [15], 2019 FG, and 2019 CVPR), on Kaggle.
- Generative model to predict a child's face given a pair of prospective parents [2]; also, for the facial blending [12].
- Provided a comprehensive survey on automatic kinship recognition [4].
- Leveraged multitask in a deep network to improve landmark detection and super-resolution of faces [6, 11].
- Invented face-attention mechanism for the discriminator to compliment self-attention in the generator of GAN framework used to synthesize profile faces from angles, yaws, and pitches up to 90° [10].
- Built a multi-modal human action database with advanced motion capture sensors (*i.e.*, Vicon, Kinects, EMGs) [9]; trained models to synthesize dances to melodies [13]; used multi-modal data & advanced sensor fusion to see through occlusions [1].

Optical Science Lab (OSL), NEU *Boston, MA*

UNDERGRADUATE RESEARCH ASSISTANT *June 2010 - Dec. 2013*

Completed Research Experience for Undergraduate (REU) summer of 2010 and 2011:

- Used 3-Photon Fluorescence for skin cancer detection for preliminary clinical field detection of skin cancer *in vivo* [23]:
  - Added imaging modality (3-Photon Fluorescence) to an existing dual-wedge confocal microscope.
  - Selected, characterized, and aligned optical components (*e.g.*, laser, lenses, filters) for the path of the laser.
  - Designed and installed electronics (*e.g.*, amplifiers and voltage controls) used on the source and detectors.
  - Built, characterized electronics (amplifiers & voltage controls); calibrated system to capture Melanin content in hair.
  - Processed images in MATLAB®, from which an analysis was done and summarized in writing.
- Worked on FDTD Algorithm to simulate light through lung tissue [24]:
  - Optimized algorithm in MATLAB® with Parallel Toolbox for multi-core processing and distributed computing.
  - Worked with other groups and departments to improve lung models in biology and mechanics.
  - Developed GPU implementation using Jacket, a third-party GPU toolbox to provide feasible analysis for transition to GPU.

Skills

SW	MATLAB®, Python, Pytorch, Tensorflow, Keras, JAVA, CUDA, Spark, Bash, ROS, Gazebo, C++, C, LaTeX, SolidWorks®, AutoCAD®
HW	GPGPU, Cluster Computing, Spectrum Analyzer, Optical Power Meter, Function Generator, Servos, Photodetector, Oscilloscope, Multimeter, RazPi, Board Level Design, Soldering, Optics Alignment, Optics Characterization
DevOps	AWS, Docker, Kubernetes, Colab, Codalab, Jenkins, Git
Personal	Communication, Research, Teaching, Mentoring/ Advising, Writing, Interpersonal

Publications

For other papers, https://www.jrobs-vision.com/publications (or Scholar for a more complete list).

[1] Yu Yin, **JP Robinson**, and Yun Fu. "Multimodal in-bed pose and shape estimation under the blankets". In: 2022.

[2] P Gao, S Xia, **JP Robinson**, J Zhang, C Xia, M Shao, and Y Fu. "What Will Your Child Look Like? DNA-Net: Age and Gender Aware Kin Face Synthesizer". In: *International Conference on Multimedia and Expo (ICME)*. 2021.

[3] **JP Robinson**, Z Khan, Y Yin, M Shao, and Y Fu. "Families In Wild Multimedia: A Multi-Modal Database for Recognizing Kinship". In: *Transactions on Multimedia (TMM)* (2021).

[4] **JP Robinson**, M Shao, and Y Fu. "Survey on the Analysis and Modeling of Visual Kinship: A Decade in the Making". In: *Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* (2021).

[5] Joseph P. Robinson, Can Qin, Yann Henon, Samson Timoner, and Yun Fu. "Balancing Biases and Preserving Privacy on Balanced Faces in the Wild". In: *CoRR* abs/2103.09118 (2021). arXiv: 2103.09118. URL: https://arxiv.org/abs/2103.09118.

[6] Y Yin, **JP Robinson**, S Jiang, Y Bai, C Qin, and Y Fu. "SuperFront: From Low-resolution to High-resolution Frontal Face Synthesis". In: *Conference on Multimedia (MM)* (2021).

[7] **JP Robinson**, G Livitz, Y Henon, C Qin, Y Fu, and Samson Timoner. "Face Recognition: Too Bias, or Not Too Bias?" In: *Conference on Computer Vision and Pattern Recognition Workshop (CVPRW)* (2020).

[8] **JP Robinson**, Y Yin, Z Khan, M Shao, S Xia, M Stopa, S Timoner, M Turk, R Chellappa, and Y Fu. "Recognizing Families In the Wild: The 4th Edition". In: *International Conference on Automatic Face and Gesture Recognition (FG)*. IEEE. 2020.

[9] L Wang, B Sun, **JP Robinson**, and Y Fu. "EV-Action: Electromyography-Vision Multi-Modal Action Dataset". In: *International Conference on Automatic Face and Gesture Recognition (FG)* (2020).

[10] Y Yin, S Jiang, **JP Robinson**, and Y Fu. "Dual-Attention GAN for Large-Pose Face Frontalization". In: *International Conference on Automatic Face and Gesture Recognition (FG)*. IEEE. 2020.

[11] Y Yin, **JP Robinson**, Y Zhang, and Y Fu. “Joint Super-Resolution and Alignment of Tiny Faces”. In: *Conference on Artificial Intelligence (AAAI)*. 2020.
[12] C Zheng, S Xia, **JP Robinson**, C Lu, W Wu, C Qian, and M Shao. “Localin Reshuffle Net: Toward Naturally and Efficiently Facial Image Blending”. In: *Asian Conference on Computer Vision (ACCV)* (2020).
[13] W Zhuang, Y Wang, **JP Robinson**, C Wang, M Shao, Y Fu, and S Xia. “Towards 3D Dance Motion Synthesis and Control”. In: *CoRR arXiv:2006.05743* (2020).
[14] **JP Robinson**, Y Li, N Zhang, Y Fu, and S Tulyakov. “Laplace landmark localization”. In: *International Conference on Computer Vision (ICCV)* (2019).
[15] **JP Robinson**, M Shao, and Y Fu. “To Recognize Families In the Wild: A Machine Vision Tutorial”. In: *Conference on Multimedia (MM)*. ACM. 2018.
[16] **JP Robinson**, M Shao, Y Wu, H Liu, T Gillis, and Y Fu. “Visual kinship recognition of families in the wild”. In: *Transactions on Pattern Analysis and Machine Intelligence (TPAMI)* (2018).
[17] Y Wu, Z Ding, Liu, **JP Robinson**, and Y Fu. “Kinship classification through latent adaptive subspace”. In: *International Conference on Automatic Face and Gesture Recognition (FG)*. IEEE. 2018.
[18] **JP Robinson**, M Shao, H Zhao, Y Wu, T Gillis, and Y Fu. “Recognizing families in the wild (rfiw) data challenge workshop in conjunction with acm mm 2017”. In: *Proceedings of the 2017 Workshop on Recognizing Families in the Wild*. 2017.
[19] Shuyang* Wang, **JP Robinson***, and Y Fu. “Kinship verification on families in the wild with marginalized denoising metric learning”. In: *International Conference on Automatic Face and Gesture Recognition (FG)*. IEEE. 2017. *EQUAL CONTRIBUTION.
[20] **JP Robinson** and Y Fu. “Pre-trained D-CNN models for detecting complex events in unconstrained videos”. In: *Sensing and Analysis Technologies for Biomedical and Cognitive Applications 2016*. International Society for Optics and Photonics. 2016.
[21] **JP Robinson**, M Shao, Y Wu, and Y Fu. “Families in the wild (fiw): Large-scale kinship image database and benchmarks”. In: *Conference on Multimedia (MM)*. 2016.
[22] **JP Robinson**, E Scott, and Y Fu. “TRECVid 2015: Multimedia Event Detection by Pre-trained CNN Models”. In: National Institute of Standards and Technology (NIST), 2015.
[23] Yair Mega, Joseph Kerimo **JP Robinson**, Ali Vakili, Nicolette Johnson, and Charles DiMarzio. “Three-photon fluorescence imaging of melanin with a dual-wedge confocal scanning system”. In: *Multiphoton Microscopy in the Biomedical Sciences Xii*. International Society for Optics and Photonics. 2012.
[24] T B Swedish, **JP Robinson**, Maricris R Silva, Andrew Gouldstone, David Kaeli, and Charles A DiMarzio. “Computational model of optical scattering by elastin in lung”. In: *3D and Multidimensional Microscopy: Image Acquisition and Processing XVIII*. International Society for Optics and Photonics. 2011.

Press

2020 **FIW: Challenge**, www.rsipvision.com/ComputerVisionNews-2020January/22/ *CV News*
2019 **Recognizing Kin**, https://cacm.acm.org/news/241684-recognizing-kin *ACM NEWS*

Licenses and Certifications

2012 **Gordon Engineering Leadership Program Certificate**, CENSSIS, Northeastern University *Boston, MA*
2010 **Computer Aided Drafting Certificate**, Northern Essex Community College *Haverhill, MA*
2007 **Home Improvement Contractor License (HIC)**, The Commonwealth of Massachusetts *Boston, MA*
2006 **Massachusetts Construction Supervisor’s License (CSL)**, Merrimac College *Andover, MA*

Technical Writing

Check out my Medium profile for more blogs.

09/2022	How-To: 4 Essential Parts of Multiprocessing in Python,	*Towards Data Science*
07/2022	Standard Template Library (STL) in C++ — An Introduction to Containers,	*Better Programming*
04/2022	C++ Smart Pointer Explained Through Intuitive Visuals,	*Better Programming*
04/2022	Modern C++: A Closer Look at Smart Pointers,	*Better Programming*
02/2022	How Computers See Depth: Recent Advances in Deep Learning-Based Methods (Part 2: Image-based stereo vision),	*Towards Data Science*
12/2021	How Computers See Depth: Recent Advances in Deep Learning-Based Methods (Part 1: Motivation and fundamentals of stereo vision),	*Towards Data Science*
08/2021	Finding Families In the Wild,	*Towards Data Science*
08/2021	Reduce the Clutter, Adapt the Space,	*Medium*
08/2021	7 Embarrassingly Easy Ways to Speed Up Your Core Python Program,	*Towards Data Science*
03/2020	Remote Development with PyCharm,	*Programming*
12/2019	Visual Kinship Verification: A Python Pandas Tutorial,	*Towards Data Science*
12/2019	RFIW Challenge in RSIPVision Monthly,	*RSIP Vision*
12/2019	Recognizing Families In the Wild: A 2020 Data Challenge,	*The Publication*
12/2019	Pandas Tips & Tricks: Need For Speed,	*Towards Data Science*
12/2019	How to Set Up Git on Your Mac,	*Better Programming*

Program Committees and Eboards

2021	**SPC**, 30th International Joint Conference on Artificial Intelligence, IJCAI	*Canada*
2020	**Virtual Chair**, IEEE FG Conference	*Argentina*
2020	**Challenge Chair and Organizer**, 4th Recognize Families In Wild (RFIW) Challenge, IEEE FG	*Argentina*
2020	**Challenge Chair and Organizer**, 4th Recognize Families In Wild (RFIW) Challenge, IEEE FG	*Argentina*
2019	**Faculty Advisor (unofficial, as a graduate student)**, IEEE Student Chapter, NEU	*Boston, MA*
2018-20	**ECE Grad Student Representative**, PhD Council: College of Engineering	*Boston, MA*
2019	**Tutorial Host & Organizer**, Recognizing Families in the Wild, CVPR	*Long Island, CA*
2019	**Tutorial Host & Organizer**, Recognize Families: A Machine Vision Tutorial (II), IEEE FG	*Lille, France*
2019	**Workshop Chair**, 9th Workshop on the Analysis & Modeling Faces & Gestures (AMFG), CVPR	*Long Island, CA*
2019	**Workshop Chair**, 2nd Workshop on Faces in Multimedia (FacesMM), ICME	*Shanghai, China*
2019	**Challenge & Workshop Chair**, 3rd RFIW Challenge, IEEE FG	*Lille, France*
2018	**Tutorial Host & Organizer**, RFIW: Machine Vision Tutorial [15], ACM MM	*Seoul, S. Korea*
2018	**Workshop Host & Organizing Chair**, Workshop on FacesMM, ICME	*San Diego, CA*
2019	**Challenge & Workshop Chair**, 2nd RFIW Challenge, IEEE FG	*China*
2018	**Workshop Host & Organizing Chair**, 8th Workshop on AMFG, CVPR	*SLC, Utah*
2017	**Workshop Host & Organizing Chair**, Annual New England CV Workshop, NEU	*Boston, MA*
2017	**Challenge Host & Organizer**, RFIW Data Challenge Workshop, ACM MM	*Mountain View*
2014-15	**R1 Student Representative (RSR) Operations**, IEEE R1 Student Activities Committee Region	*2-4 N. American*
2012-15	**Lead Research Ambassador**, Student Research Engagement Committee, NEU	*Boston, MA*
2013-14	**President**, IEEE Student Chapter, NEU	*Boston, MA*
2012-13	**Student Representative**, Student Activities Committee, College of Engineering, NEU	*Boston, MA*
2013-14	**COE Activities Counselor**, IEEE Student Chapter, NEU	*Boston, MA*
2012-13	**Student Senator**, Student Government Association, NEU	*Boston, MA*
2012-13	**Committee Member**, Academic Affairs, NEU	*Boston, MA*
2010-12	**Vice President**, Phi Theta Kappa Honor Society, NECC	*Haverhill, MA*

Honors & Awards

2020	**Outstanding Teaching Award**, College of Engineering (NEU)	*Boston, MA*
2020	**Doctoral Consortium**, IEEE Conference on FG	*B.A., Argentina*
2019	**Best Reviewer**, IEEE Conference on FG	*Lille, France*
2018	**Best Reviewer**, IEEE Conference on FG	*Xi'an, China*
2018	**Doctoral Consortium**, IEEE Conference on FG	*Xi'an, China*
2015	**Fellowship Recipient**, ALERT DHS HS-STEM Career Development (NEU)	*Boston, MA*
2014	**1st Place**, ECE Department's Senior Capstone Competition (NEU)	*Boston, MA*
2014	**Award**, 'Huntington 100' (NEU)	*Boston, MA*
2014	**Best Poster**, Communications & Digital Signal Processing Workshop	*Boston, U.S.A.*
2013	**T-shirt Design Winner**, IEEE & ECE Department (NEU)	*Boston, MA*
2013	**Senator of the Month**, Student Government Association (NEU)	*Boston, MA*
2013	**Awardee**, NSF's INTEL Scholarship (NEU)	*Boston, MA*
2012	**Outstanding Research in Engineering & Tech**, Research, Innovation, & Scholarship Expo	*Boston, MA*
2011	**1st Place**, ECE Department-wide Remote Control Design Contest (NEU)	*Boston, MA*
2010	**Tutor of the Year**, Math Resource and Tutoring Center (NECC)	*Haverhill, MA*
2010	**Tutor of the Month (2x)**, Academic Resource and Tutorial Center (NECC)	*Haverhill, MA*
2010	**Best Pie on Pi Day**, Math Resource and Tutoring Center (NECC)	*Haverhill, MA*
2009	**Tutor of the Year**, Math Resource and Tutoring Center (NECC)	*Haverhill, MA*
2009	**Tutor of the Month**, Academic Resource and Tutorial Center (NECC)	*Haverhill, MA*

Websites: Designing, Building, Maintaining

2022	**AEyeZone: On-site Explainable AI**, hhttps://www.aeyezone.com/	*IEEE FG*
2020	**Recognizing Families in the Wild (RFIW): the 4th Edition**, [link]	*IEEE FG*
2020	**Bias Faces in the Wild (BFW) project**, https://github.com/visionjo/facerec-bias-bfw	*Public*
2020	**2020 RFIW: Codalab Portal (Track I, II, and III)**, T1, T2, and T3	*IEEE FG*
2019	**The 9th Workshop on Analysis and Modeling of Faces and Gestures (AMFG)**, [link]	*CVPR*
2019	**Visual Kinship Recognition: A Machine Vision Tutorial (Part II)**, [link]	*CVPR*
2019	**The 2nd IEEE Workshop on Faces in Multimedia**, [link]	*ICME*
2019	**Northeastern SMILE Lab - Recognizing Faces in the Wild**, [Kaggle link]	*Kaggle*
2019	**Visual Kinship Recognition: A Machine Vision Tutorial (Part I)**, [link]	*IEEE FG*
2019	**Recognizing Families in the Wild (RFIW): the 3rd Edition**, [link]	*IEEE FG*
2019	**Visual Kinship Recognition: A Machine Vision Tutorial (Part I)**, [link]	*ACM MM*
2018	**The 8th Workshop on Analysis and Modeling of Faces and Gestures (AMFG)**, [link]	*CVPR*
2018	**Workshop on Faces in Multimedia**, [link]	*ICME*
2018	**Recognizing Families In the Wild: A 2020 Data Challenge**, [link]	*IEEE FG*
2017	**Recognizing Families In the Wild: A 2020 Data Challenge**, [link]	*ACM MM*
2017	**New England Computer Vision Workshop 2017**, [link]	*NE CV Researchers*
2017	**Families in the Wild (FIW): A Large-scale Database**, [link]	*SMILE Lab*
2017	**Personal Website**, https://www.jrobs-vision.com/	*Public*

Hobbies

Creative	Website Design, Writing, Automating SW Tool Development, Cooking
Recreational/ Leisure	Ice hockey, Skiing, Traveling, Fishing, Reading non-fiction/history