INSTITUTO
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UFRGS

Doctoral programs

Jeffri Erwin Murrugarra Llerena
collaboration with Ariana M. Villegas Suarez

UFRGS
UNIVERSIDADE FEDERAL
DO RIO GRANDE DO SUL

Agenda

1) Finding suitable doctoral programs
2) Required materials
3) Standardized exams
4) Recommendation Letter
5) Statement of Purpose
6) Additional documents
7) Conclusions

Finding suitable doctoral programs: Rankings

1. **Bright Career Opportunities**
2. **Upgrade Skills**
3. **Awareness of New Knowledge & Skills**
4. **Funding is always Guaranteed for top applicants by US universities**
5. **Employers hire candidates with enhanced skills**

Finding suitable doctoral programs: Rankings

Choose several universities (10-15 programs) options

Choose universities by your potential advisor's affinity rather than only university reputation

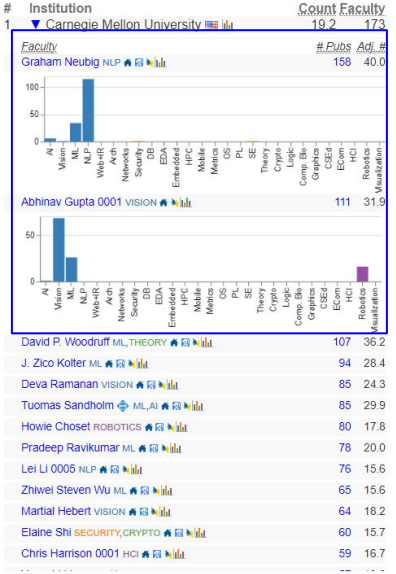
Finding suitable doctoral programs: Rankings

- Rankings of Universities about publications history at top conferences: https://csrankings.org/#/index?all&world

#	Institution	Count	Faculty
1	Carnegie Mellon University	19.2	173
2	Univ. of Illinois at Urbana-Champaign	13.9	112
3	Univ. of California - San Diego	12.3	128
4	Tsinghua University	12.2	135
5	Georgia Institute of Technology	11.0	143
6	Massachusetts Institute of Technology	10.2	92
6	Univ. of California - Berkeley	10.2	95
8	University of Michigan	10.1	100
8	University of Washington	10.1	81
10	ETH Zurich	10.0	47
11	Stanford University	9.6	68
12	Cornell University	9.3	83
13	Peking University	8.8	135
14	University of Maryland - College Park	8.6	88
15	University of Toronto	8.3	101
16	Shanghai Jiao Tong University	8.1	156
17	Northeastern University	7.7	87
18	National University of Singapore	7.6	76
19	KAIST	7.1	94
19	Purdue University	7.1	74
21	University of Wisconsin - Madison	7.0	70
22	University of Texas at Austin	6.9	50
23	University of Pennsylvania	6.7	74

Finding suitable doctoral programs: Rankings

- Filter by area of interest
- Inspect university professor and their research interest
- After that:
  - Double check their affiliation and their program
  - **See activity of the professor**



Finding suitable doctoral programs: Rankings

- Useful pages to look for professor's activities:
  - **Personal or Institutional Webpage**
  - Google Scholar
  - DBLP
  - Semantic Scholar
  - Linkedin

Abhinav Gupta

Professor
The Robotics Institute
Carnegie Mellon University

Office: EDSH 121
Phone: 412-268-2067 (email is the best option to reach me)
Email : abhinavg [at] cs [dot] cmu [dot] edu

News

- Back full-time at CMU starting May 2022.
- Best paper award at ICRA22 Workshop - Scaling Robot Learning.
- Awarded 2020 JK Aggarwal Prize for contributions to self-supervised learning
- Awarded ONR Young Investigator Award 2018
- Awarded Okawa Research Grant
- Seven papers accepted in ICCV 2017
- Eight papers accepted in CVPR 2017
- Eight papers accepted in ECCV 2016
- Awarded PAMI Young Researcher Award
- Awarded ICRA Best Student Paper Award 2016
- IJCAI Early Career Spotlight 2016
- Awarded Sloan Fellowship.
- NEIL appears in a Discover Magazine article.
- Invited as panelist at Council on Foreign Relations
- NEIL selected as CNN Top 10 Ideas of 2013.
- Invited Speaker at Aspen Ideas Festival

About Me [biography]

I am a professor at Carnegie Mellon University. Prior to this, I was a post-doctoral fellow here working with Alyosha Efros and Martial Hebert. Before coming to Pittsburgh, I was working with Larry Davis at UMD and Jianbo Shi at UPenn. My PhD thesis was on "Beyond Nouns and Verbs".

Finding suitable doctoral programs: Rankings

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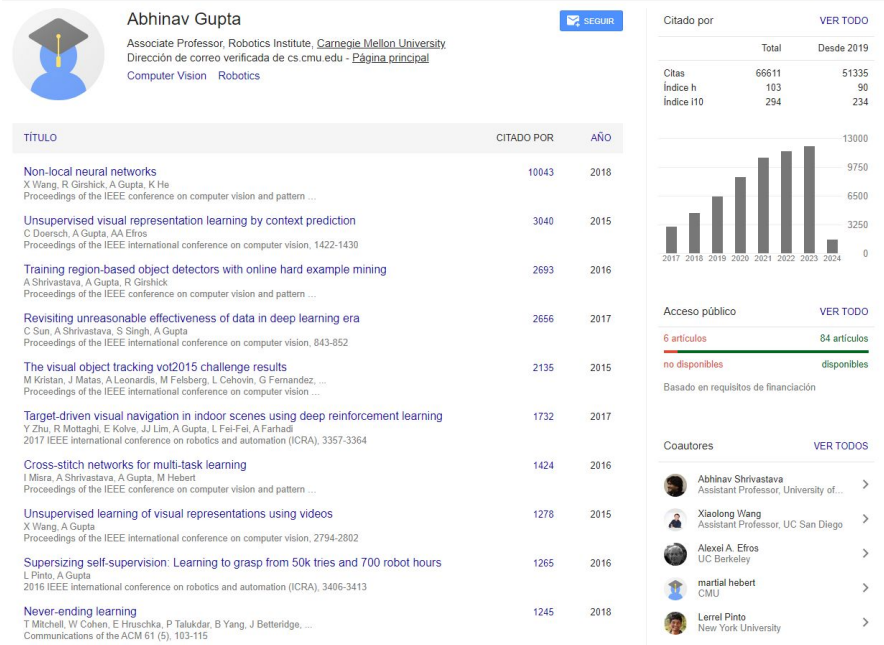

Abhinav Gupta

SEGUIR

Associate Professor, Robotics Institute, Carnegie Mellon University
Dirección de correo verificada de cs.cmu.edu - Página principal
Computer Vision Robotics

TÍTULO	CITADO POR	AÑO
Non-local neural networks X Wang, R Girshick, A Gupta, K He Proceedings of the IEEE conference on computer vision and pattern ...	10043	2018
Unsupervised visual representation learning by context prediction C Doersch, A Gupta, AA Efros Proceedings of the IEEE international conference on computer vision, 1422-1430	3040	2015
Training region-based object detectors with online hard example mining A Shrivastava, A Gupta, R Girshick Proceedings of the IEEE conference on computer vision and pattern ...	2693	2016
Revisiting unreasonable effectiveness of data in deep learning era C Sun, A Shrivastava, S Singh, A Gupta Proceedings of the IEEE international conference on computer vision, 843-852	2656	2017
The visual object tracking vot2015 challenge results M Kristan, J Matas, A Leonardis, M Felsberg, L Cehovin, G Fernandez, ... Proceedings of the IEEE international conference on computer vision ...	2135	2015
Target-driven visual navigation in indoor scenes using deep reinforcement learning Y Zhu, R Mottaghi, E Kolve, JJ Lim, A Gupta, L Fei-Fei, A Farhadi 2017 IEEE international conference on robotics and automation (ICRA), 3357-3364	1732	2017
Cross-stitch networks for multi-task learning I Misra, A Shrivastava, A Gupta, M Hebert Proceedings of the IEEE conference on computer vision and pattern ...	1424	2016
Unsupervised learning of visual representations using videos X Wang, A Gupta Proceedings of the IEEE international conference on computer vision, 2794-2802	1278	2015
Supersizing self-supervision: Learning to grasp from 50k tries and 700 robot hours L Pinto, A Gupta 2016 IEEE international conference on robotics and automation (ICRA), 3406-3413	1265	2016
Never-ending learning T Mitchell, W Cohen, E Hruschka, P Talukdar, B Yang, J Betteridge, ... Communications of the ACM 61 (5), 103-115	1245	2018

Citado por VER TODO

	Total	Desde 2019
Citas	66611	51335
Índice h	103	90
Índice i10	294	234

Acceso público VER TODO

6 artículos 84 artículos
no disponibles disponibles

Basado en requisitos de financiación

Coautores VER TODOS

- Abhinav Shrivastava, Assistant Professor, University of...
- Xiaolong Wang, Assistant Professor, UC San Diego
- Alexei A. Efros, UC Berkeley
- martial hebert, CMU
- Lerrel Pinto, New York University

Finding suitable doctoral programs: Rankings

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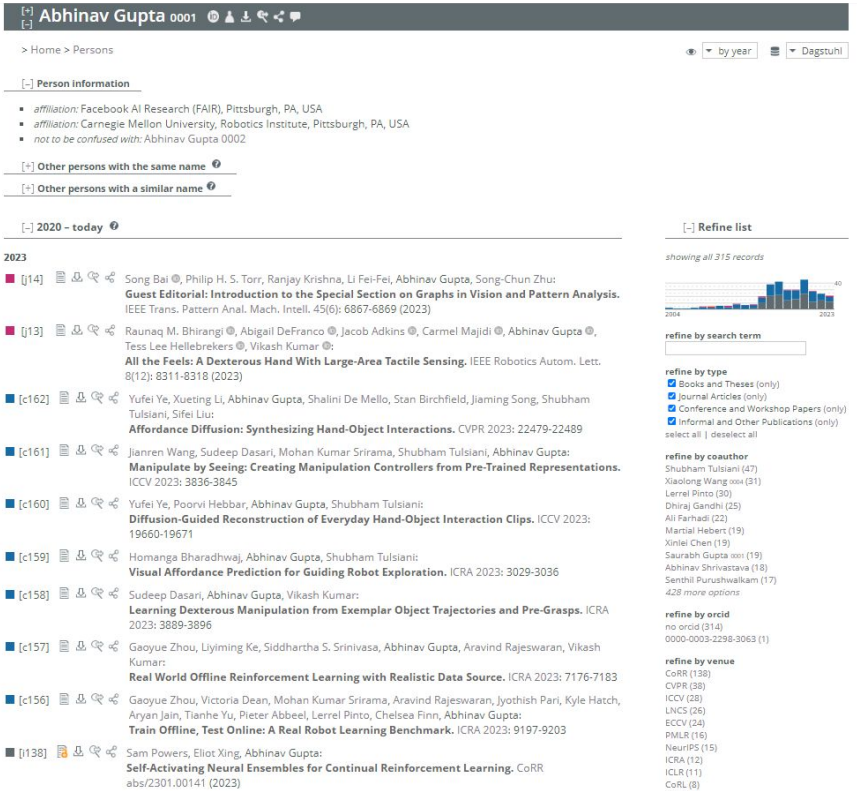

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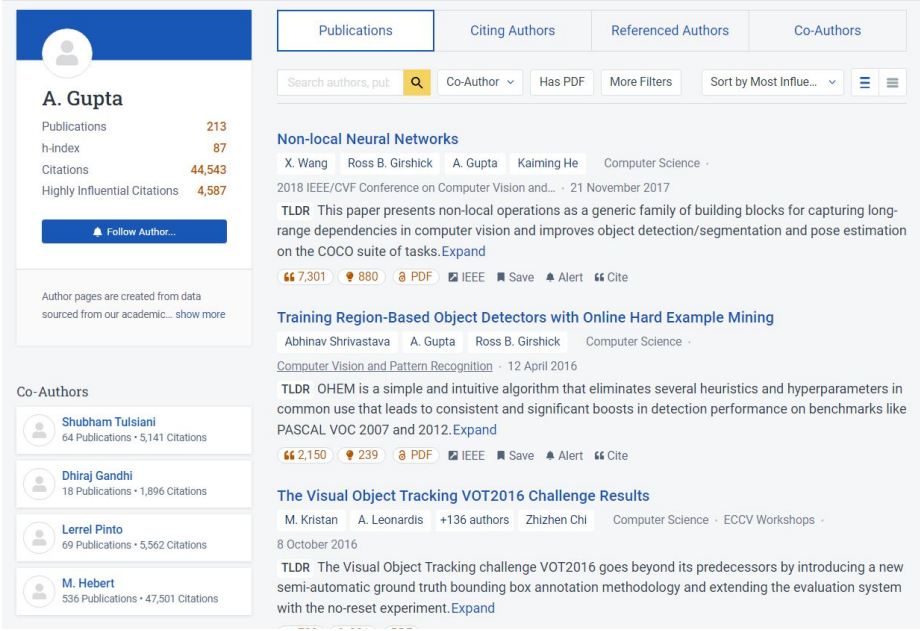

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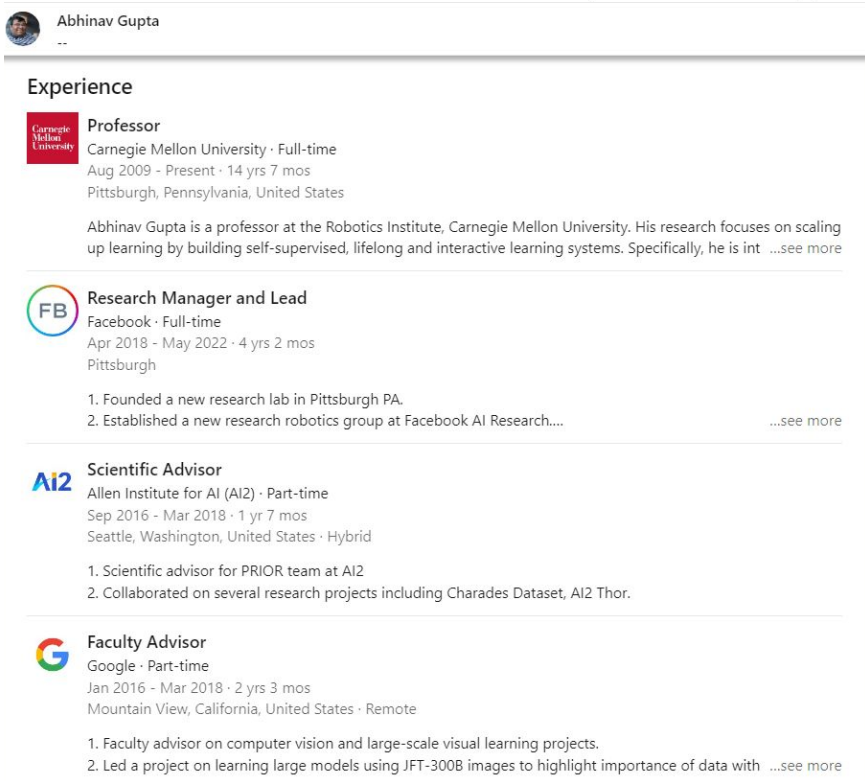

Finding suitable doctoral programs: Fee Waivers

Waivers for Participants of Programs

We provide fee waivers for participants of certain programs and organizations (see the list below). If you

If the application fee presents financial hardship to the applicant, we will consider a fee waiver request.

After submission we will confirm your need and waive the application fees for up to two programs.

Deadlines

Deadline for Requesting Fee Waivers:
December 6, 2023 (3 p.m. EST)

Deadline for Application:
December 13, 2023 (3 p.m. EST)

Eligibility

Only **U.S. citizens or current permanent residents** are eligible for an application fee waiver.

There are two ways in which you may qualify for an application fee waiver:

The Computer Science Department offers application fee waivers to diversity (broadly defined) candidates. We especially encourage applications from first-generation, low-income students who are U.S. citizens or permanent residents and those whose backgrounds and life experiences would bring additional dimenions to the Computer Science Department. The Computer Science Department is **unable to offer a traditional fee waiver**, however, the School of Engineering offers fee waivers.

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Required materials

- Graduate School Application Form
- Transcripts
- Resume (first-author publications in top conferences, popularity co-authors)
- Test Scores
- Recommendation Letters
- Statement of Purpose or Personal Statement
- Additional Documents

Resume

JONATHAN RAMIREZ

250 86th Street, New York, NY 10036
Email: harry.potter@lc.cuny.edu - Mobile: 718 960-8000

SUMMARY

Ambitious, results-oriented HR professional seeking acceptance to Zicklin Executive Master of Science in Human Resource Management (EMS HRM) Program.

EDUCATION

Lehman College/CUNY — Bronx, NY
Bachelor of Business Administration in Human Resource Management — May 2018
GPA: 3.5, Dean's List

Thomas Edison State College — Trenton, NJ
Associate in Science in Business Administration — September 2016

HONORS & AWARDS

Office of Minority Affairs Scholarship — September 2017-May 2018
SHRM Scholarship — September 2017-May 2018
Trustees' Scholarship — September 2016-May 2017

PROFESSIONAL ASSOCIATION

Membership Coordinator, Society for Human Resource Management — June 2014 - present

EXPERIENCE

City of Ithaca Department of Personnel and Civil Service — Ithaca, NY
Human Resources Associate — June 2018 - present

- Collaborated with external agencies and partners to successfully fill open positions; partnered with HR Generalists at client companies utilizing innovative sourcing techniques (i.e. social networking, profiling and planning, internal and external relationship building and engaging passive job seekers) resulting in a 20% increase in manager satisfaction for 2014
- Administer Civil Service Exam Procedure: update eligible list, create canvas letters, follow up with clients and answer questions
- Audit personnel payroll for accuracy and input confidential employee salary increases into Civil Service data system
- Document procedures and assist in the training process

The Hunter Group — Jamestown, NY
Human Resources Intern / Staffing Coordinator — January 2018 - May 2018

- Successfully planned and executed events: Online Job Fair Program and Reception; the Optimal Internship & Scholarship Program; Awesome Service Awards, American Red Cross Blood Drives, The Hunter Group 25 Year Banquet
- Managed public information requests regarding recruitment, personnel records, performance evaluations, and payroll and benefits at The New York Office of the Attorney General
- Helped implement a new HRIS PeopleSoft system leading to significant improvements in time-to-hire

PUBLICATION:

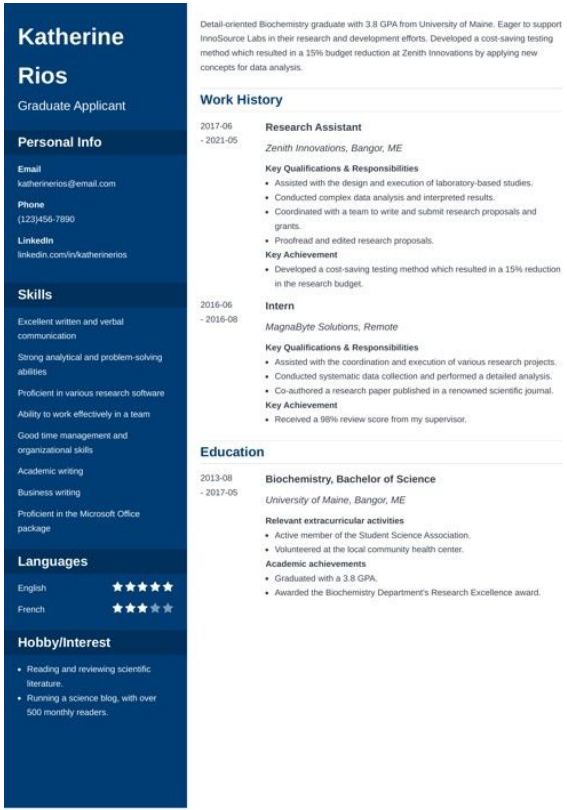
- BJ Hoppers., & Potter, H. (2017). "Comparisons of Hiring Processes in Private and Public Organizations". SHRM: HR Magazine, June/July/August, 20-21.

PRESENTATION:

- Potter, H. (2018, June). "Strategies for Effective Implementation and Use of HRIS PeopleSoft Systems". Paper presented at the SHRM13 Annual Conference, Las Vegas, NV

SKILLS & INTERESTS

Community Service: American Red Cross, Volunteer/Donor; American Cancer Society, Fundraiser
Student Activities: Lehman College Tennis Club; Meet Organizer
Computer Skills: Microsoft Office Suite, SPSS, PeopleSoft, HRIS



Katherine Rios

Graduate Applicant

Personal Info

Email
katherinerios@email.com

Phone
(123)456-7890

LinkedIn
linkedin.com/in/katherinerios

Skills

- Excellent written and verbal communication
- Strong analytical and problem-solving abilities
- Proficient in various research software
- Ability to work effectively in a team
- Good time management and organizational skills
- Academic writing
- Business writing
- Proficient in the Microsoft Office package

Languages

English ★★★★★
French ★★★☆☆

Hobby/Interest

- Reading and reviewing scientific literature.
- Running a science blog, with over 500 monthly readers.

Detail-oriented Biochemistry graduate with 3.8 GPA from University of Maine. Eager to support InnoSource Labs in their research and development efforts. Developed a cost-saving testing method which resulted in a 15% budget reduction at Zenith Innovations by applying new concepts for data analysis.

Work History

2017-06 - 2021-05
Research Assistant
Zenith Innovations, Bangor, ME
Key Qualifications & Responsibilities
- Assisted with the design and execution of laboratory-based studies.
- Conducted complex data analysis and interpreted results.
- Coordinated with a team to write and submit research proposals and grants.
- Proofread and edited research proposals.

Key Achievement
- Developed a cost-saving testing method which resulted in a 15% reduction in the research budget.

2016-06 - 2016-08
Intern
MagnaByte Solutions, Remote
Key Qualifications & Responsibilities
- Assisted with the coordination and execution of various research projects.
- Conducted systematic data collection and performed a detailed analysis.
- Co-authored a research paper published in a renowned scientific journal.

Key Achievement
- Received a 98% review score from my supervisor.

Education

2013-08 - 2017-05
Biochemistry, Bachelor of Science
University of Maine, Bangor, ME
Relevant extracurricular activities
- Active member of the Student Science Association.
- Volunteered at the local community health center.

Academic achievements
- Graduated with a 3.8 GPA.
- Awarded the Biochemistry Department's Research Excellence award.

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Standardized exams: TOEFL EXAM

- Universities will required a **proof of expertise on English**. Most of them required a score between **80 - 100**. Some of them will required a **minimum on each section**.

- If you study in an english-based university. You can try to apply for an exception.

Resources

TEST Success

TEST success

@TESTsuccess · 128K subscribers · 164

The channel is here to help you improve

Subscribe

What is the TOEFL Exam Pattern?

Section	Task	What does it test
Reading	Read 2 passages from academic texts and answer questions.	Ability to understand academic reading material written in English
Listening	Listen to lectures, Classroom discussions and conversations, then answer questions.	Ability to understand spoken English as it used in colleges and universities.
Speaking	Express an opinion on a familiar topic; speak based on reading and listening tasks	Ability to speak English in an academic setting
Writing	Write essay responses based on reading and listening tasks; Support an opinion in writing	Ability to write in English in a way that is appropriate for college and university coursework.

Standardized exams: IELTS EXAM

- Universities will required a **proof of expertise on English**. Most of them required a score between **7.0 - 9.0**. Some of them will required a **minimum on each section**.

- If you study in an english-based university. You can try to apply for an exception.

Resources

Standardized exams: GRE EXAM

- Most universities **do not require** GRE anymore (it's optional).
- If you choose to take it. **Send reports if your scores are exceptional**.

GRE EXAM PATTERN – GENERAL

Measure	Section	Questions No	Allotted Time
Analytical Writing	1	One "Analyze an Issue" task	30 minutes
Verbal Reasoning	2	Section 1: 12 questions	18 minutes
		Section 2: 15 questions	23 minutes
Quantitative Reasoning	2	Section 1: 12 questions	21 minutes
		Section 2: 15 questions	26 minutes

Resources

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Recommendation Letters

- Most universities request a minimum of three recommendation letters, where two of them are by people that recently worked with you.
    - Advisor of Undergrad Capstone projects or Master Advisor
    - Dissertation committees
    - Advisor of Internships.
    - Professor that worked with you in your undergrad or master period (Proof-reading if possible).
- In general, people that are aware of your recent research.

Recommendation Letters

- Strong recommendation letters boost your profile.
- If your recommender is an active researcher with a good amount of citation, yours odds increase.
- If your recommender have a good reputation on the research community, your odds increase.

Recommendation Letters

- If it is possible to do a proofreading. Make sure that, your recommendation letters presents:
  - The writer's relationship with the applicant
  - The applicant's academic (and extracurricular) accomplishments
  - The applicant's personal strengths
  - The applicant's suitability for the scholarship or programme that the applicant is applying for
  - Ask your recommender to add specific examples of the three previous topics (Universities like to see your performance in real-world scenarios)

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Statement of Purpose

Start about 3-months early

Start with a draft and then iterate it

Share it with senior PhD students, faculty or advisors to strengthen it

Statement of Purpose

- There is a huge variety of styles when doing a statement of purpose. Examples of documents accepted in a PhD program:
  - https://cs-sop.notion.site/CS-PhD-Statements-of-Purpose-df39955313834889b7ac5411c37b958d
- Today we will see two examples.
  - Statement of Purpose accepted in Stony Brook University (CV and NLP)
  - Statement of Purpose accepted in Columbia University (NLP and HCI)

Statement of Purpose

- Personal & Research Background (brief motivation directed to university)
- Background Research (highlight your publications)
- Future work (university resources)
- Personal Interest (be concise)
- Focus to university program. (faculty, courses, programs, seminars, group labs, diversity groups, community, research affinity, etc)

Statement of Purpose

- Personal & Research Background
  - Briefly introduce your research interest and its motivation.
  - Introduce personal information that are relevant to research.
  - Share some of your future goals and why you choose that University.
  - Connect the final idea towards the next section.

Statement of Purpose - U Stony Brook

Motivation

Personal Info.

Research Interest and Personal Background: I am excited to continue my research on Computer Vision and Natural Language Processing. I firmly believe that pursuing a Ph.D. in computer science will substantially enhance my knowledge and comprehension of these fields. Over the years, I developed academic and personal skills, making me a strong candidate for a Ph.D. program. I consider myself a resilient individual. For instance, I was born in a small city in northern Peru, which motivated me to strive for a better education. Therefore, I moved to Trujillo, a more developed city, to study for my Bachelor in Computer Science at the National University of Trujillo. First, I was interested in competitive programming, which enhanced my problem-solving, programming, and self-learning skills. Inspired to learn more, I studied at the University of São Paulo (Brazil) as an exchange student. I was fascinated by how students were proactive and helped each other. During my stay, I liked machine learning due to its relation to mathematics/statistics, and I started to learn and keep an eye on advances in this field. I also became familiar with top conferences and wanted to get involved in the research community. I started by sharing my end-of-semester project from my image processing course in the LatinX workshop at the ICML conference. This experience shaped my vision of research at the top level (competitive, useful, and innovative) and my willingness to contribute to it. In particular, I wanted to achieve a publication in a top-tier Computer Vision conference. To increase my knowledge, I sought graduate studies in Brazil specializing in Computer Vision.

future goals,
and connection with
the next paragraph

Statement of Purpose - Columbia University

Motivation

Personal Info.

resume of research.

future goals, and connection with the next paragraph

I am passionate about uncovering the path toward a socially-aware **dialogue agent** capable of human-like communication. My work lies at the intersection of **Natural Language Processing (NLP), Machine Learning (ML), and Human-Computer Interaction (HCI)**. Ever since watching Steven Spielberg's *Artificial Intelligence* which features David, a robot boy who yearns to be human and be loved, the dream of building a similar companion has driven me to a career in Computer Science. David communicates, emotes, and comprehends as a picture-perfect embodied agent. My ideal dialogue agent should be capable of **displaying creativity for interesting long-form conversations**, **reciprocating in a socially-appropriate manner,** while **handling real-life stochasticity with grace**. Current virtual assistants remain far below this ideal, failing to maintain long-term conversations and behaving unnaturally in interactions. Over **three** years in research, I have made significant contributions to NLP through **eight publications with 40+ citations** at top-tier NLP conferences. In addition to research, I value the experience of mentoring students and teaching, and I aspire to be a faculty one day. By pursuing a Ph.D. at Columbia University, I can push the frontier in conversational AI, informed by my experience in both narrative generation and dialogue systems.

Statement of Purpose

- Background Research (highlight your publications)
  - Undergrad research:
    - Relevant Projects
    - Scientific initiation
  - Master research:
    - Dissertation
  - Publications
  - Internships
  - Industry projects
  - Patents

Statement of Purpose - U Stony Brook

Overview

Selected past research: My Master's thesis started with Dr. Claudio Rosito Jung in the Computer Vision Lab at the Federal University of Rio Grande do Sul, focused on spherical images and object detection. Spherical images are single-view photographs of our surroundings, commonly expressed in a 2D equirectangular image. However, traditional algorithms for perspective images usually have an inconsistent performance when applied to these representations. We focused on the key-point detection and matching problems and compared several techniques traditional and tailored to the spherical domain, publishing [4] at the "OmniCV2022 (workshop in CVPR)". I also got involved in a broader analysis of spherical images and applications, which led to a survey paper [1] at "ACM Computing Surveys". Lastly, I also published about inconsistencies in datasets at the Visual Dataset Understanding (workshop in CVPR) [5]. From these works, I learned that I enjoyed doing research. Mainly, how closely you interact with your advisor, the workflow of brainstorming new approaches, the discussion around them, and your influence over the process.

First Outcomes

Learning from experiences

Statement of Purpose - U Stony Brook

Brief explanation of a important research.

Some personal experience related with the research process.

Outcomes of that experience

The following work was a tough challenge, which was the main focus of my dissertation. I experienced mixed emotions in the process, from being frustrated to being satisfied. In this work, we propose a Probabilistic IoU (ProbIoU - see Fig 1 for an overview) that considers fuzzy object representations as probability density functions. ProbIoU reduces to a differentiable closed-form expression that can be used to train oriented object detectors in any dimension. Furthermore, ProbIoU satisfies mathematical properties related to distance metrics, making it an alternative to the IoU for evaluating oriented detectors. Lastly, we propose a new representation (Elliptical Bounding Boxes (EBB), inspired by ellipses) and mapping functions to established representations. Before our first submission, another research group published a work with a similar idea. Therefore, we had to restructure our motivation and add new experiments to justify our approach. Although we managed to submit to NeurIPS, I got my first rejection. I felt discouraged and frustrated, but we kept trying in posterior submissions (CVPR and ECCV). Besides, competitive results in our experiments: reviewers asked for experiments that would take months using our hardware, discouraging me from the unfairness of our limited GPU resources. On the other hand, state-of-the-art technology keeps progressing, and we need to reinvent our approach several times. Although we could not achieve a top-tier conference publication, I kept myself motivated and perseverant. My research articles were more cohesive, stronger, and structured. Additionally, I felt motivated when other researchers got interested in my work. My main contributions include identifying the limitations in existing methods, the implementation of our approach, and the technical writing. Lastly, this work raised my curiosity, and I asked myself: "which field excited me the most?" I was determined to work in computer vision, but as I deepened in the literature, Natural Language Processing (NLP) seemed a very topic and opened a new

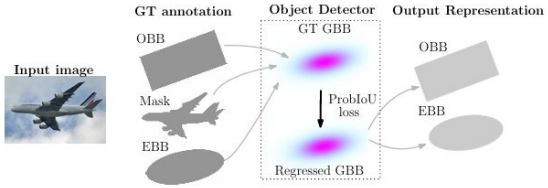


Figure 1: Example of ProbIoU as a localization loss for object detection: the object GT annotation and the network output are converted to GBBs, which are fed to the ProbIoU loss. At inference, the GBB can be mapped to an OBB or an EBB.

Statement of Purpose - U Stony Brook

Brief explanation of a important research.

Outcome of that experience

I started my research independently (mostly about learning SOTA methods), but I found the need for NLP expert advisors. Fortunately, using my undergrad academic network, I found two great advisors. We developed an automatic process to identify a curriculum according to ACM/IEEE standards with human interpretability. In particular, we collected a new curricula dataset of well-recognized universities in the USA and some LATAM universities. To learn a curriculum-based representation, we have devised a methodology for identifying the core courses among computing careers. From a technical perspective, we have implemented an attention module in conjunction with metric learning (See Fig 2) to enhance human interpretability, mirroring core courses per computing career. After a round of submissions, this work [3] was accepted to the EMNLP2022 conference, one of the most recognized conferences in NLP. During this work, I developed a more critical thinking, and better design of experiments to support our claims, as well as arguments in favor of our motivation.

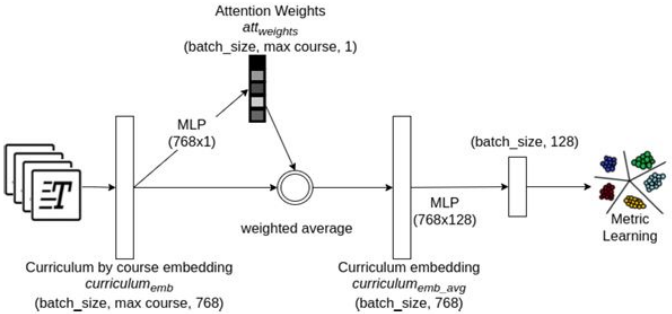


Figure 2: Our course-based attention approach. It generates an intuitive representation of curriculums via attention weights and metric learning. Attention highlights core courses, while metric learning learns boundaries to form well-defined groups. Both components are crucial to find accurate representations.

Statement of Purpose - Columbia University

Resume of research in undergrad

Record publication of that period.

Outcomes of that experience

My undergraduate research in **automated narrative generation** with Prof. Mark Riedl at Georgia Institute of Technology can help me make agents **creative in long-form dialogues**. Long-form dialogues are challenging because they require understanding and memorizing current dialogue states to avoid conflicting responses — capabilities that current agents lack. Over my 1.5 years at Georgia Tech, my research resulted in publications on reducing non-normative content in generations (**INLG 2020 [1]**), surveying narrative generations (**NAACL 2021 [2]**), and improving narrative logical coherence through COMET-based filtering (**EMNLP 2022 [3]**). Through conducting Mechanical Turk studies for these projects, I learned that human evaluation of natural language generations remains challenging, and that lower perplexity does not equal better creativity. Therefore, I believe that human evaluations should be more prominent in the research pipeline, especially for user-facing systems that I will build throughout my Ph.D. My recent first-author **EMNLP 2022 [4]** work with Prof. Christopher Potts further showcases limitations in language model generations by demonstrating a lack of evidence for GPT-3's structural knowledge of noun compounds. My research at Georgia Tech and Stanford University has taught me the challenges in narrative generation, as in that language models often fail to generate logically coherent long stories, and has only inspired me to study these problems more. After all, it is nice to have your voice agent crack a joke organically after a long day or make up short stories to teach you brilliant concepts.

Statement of Purpose - Columbia University

Resume of research in graduate studies

Contextualizing the problem, and results.

Instilling long-term coherence into dialogue agents is but one step toward more natural dialogue agents. An equally important, parallel dimension revolves around imbuing agents with more **human-like speech behaviors**, a problem I tackled through my Master's at Stanford University. Humans tend to feel more comfortable communicating with agents that exhibit similar behaviors; for instance, Siri does not stop talking when a user interjects, something that does not often happen between humans. Therefore, it is crucial to make agents display such natural speech behaviors to improve user experience and realize the full potential of these dialogue agents. In the fall of 2021, I began collaborating with Prof. Christopher Manning and Dr. Ashwin Paranjape to provide spoken dialogue agents with better turn-taking capabilities. Current-day voice agents wait for a period of silence before responding to the users, resulting in jagged and unnatural conversational flows and damaging user experience. To address this problem, we trained a model to constantly predict the answer to "how long until my next utterance?". I researched and analyzed prior literature, wrote the code base, and proposed potential research directions. The findings of my research resulted in a first-author paper at **SIGDIAL 2022 [5]** and an article by Stanford HAI. Building a quick Flask demo for the system was one of my most cherished moments. I realized then that my truest fulfillment stems from implementing user-facing AI systems that handle real-world stochasticity with grace.

Statement of Purpose

- Future work
  - Research and technology topics that you are interested
  - Goals for your PhD program
  - How you will contribute to the university program?
  - How the university would help you achieve your previous goals?

Statement of Purpose - U Stony Brook

Research topic that you are interested in

Future Research: After finishing my master, I reaffirmed my motivation to explore ways of combining NLP with CV as I see a lot of computer vision experts also interested in NLP advances. Principally, I got interested in an emerging problem named text-guided object detection. OmniLabel [6] dataset provides a benchmark with high-level correlations (object's color, position, or characteristics) of objects with text. Note that this data set presents a higher semantic relation than RefCOCO+ [2]. This problem can be related to many tasks related to Vision+Language: Visual Grounding is the most nearly example, Unbiasing false detections supporting with language, visual navigation, or changing the representation shape of the objects. For this natural relation with a lot of downstream classes, I also got interested in CLIP emerging capabilities (such as [7]), and how to use image prompts to boost their performance in downstream tasks such as visual question answering, Image captioning, Image Retrieval, and so on. On top of that, I think this research can explore many approaches, such as zero-shot or self-supervised ones.

Some background and applications of the topic you mention

Statement of Purpose - Columbia University

Research topic that you are interested in and future mentoring activities.

Having scratched the surface of natural speech behaviors, I am shifting to integrating **socially-appropriate conversational behaviors** into spoken dialogue agents. Inspired by Meta's work on modeling speech through acoustic "units", Prof. Manning and I intend to turn dialogue agent generations into natural response audios. This project will build upon the unit-to-speech pipeline by Meta, reframing text-to-speech as text-to-unit-to-speech to generate naturalistic artifacts (e.g. hesitations and laughter) often captured by unit-based approaches. Next quarter, I will mentor an undergraduate to train a model to translate generated dialogue utterances into more disfluent and natural utterances (e.g. "I just had dinner" → "I, uh, I just had dinner"). Meanwhile, I joined the **Amazon Alexa Prize Team** this year, allowing me access to real, live users not typically accessible in academia. This opportunity will inform my future dialogue research of better conversational behaviors and more realistic modeling of speaker dynamics.

Statement of Purpose

- Personal Interest
  - Personal goals
  - Teaching goals
  - Mentoring goals
  - Community goals

Statement of Purpose - U Stony Brook

personal goals

Personal Goal: On par with my academic goals, I want to contribute to students in Peru and Latin America by increasing their opportunities to access high-level education. Hence, I advised undergraduate students to pursue a research career and facilitate their acceptance into prestigious international universities. Also, I think that teaching is a good way to achieve this goal by sharing your expertise with future generations. I have already taken my first steps toward that goal, and I taught some subjects related to image processing and machine learning. Additionally, I worked as a teaching assistant during my graduate studies. These experiences taught me that I am inspired to share my knowledge and mentor the new generations, which also deepens my knowledge.

teaching goals

Statement of Purpose

- Conclusion part should be oriented to a university program. (faculty, courses, programs, seminaries, group labs, diversity groups, community, research attachment)
    - Mention faculty who want you to work with
    - Mention courses that interest you
    - Mention labs that interest you
    - Mention anything that the University offer that are attractive to you

Statement of Purpose - U Stony Brook

Relevant courses to your research

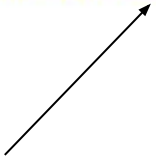
To accomplish my academic and personal goals, I would like to pursue a Ph.D. at Stony Brook University. First, I found courses related to Advanced Computer Vision, Natural Language Processing, and Advanced algorithms that can benefit my future research. Also, some courses about Quantum Computing and App, Medical Imaging and Big Data Systems, Algorithms & Networks could be useful and interesting for future research. Also, there are advanced topics in many fields that can serve to keep up with advances in AI. Besides that, The work of several faculty members is a potential match for my research interests. Prof. Minh Hoai Nguyen research on object detection, prediction from gaze, and cross-modality works are relevant to my research. Prof. Dimitris Samaras's research on object counting and prompt tuning is quite aligned with my interests. Prof. Niranjan Balasubramanian's research on question-answering interests me. Also, It would be great to collaborate with two professors to tackle problems involving CV and NLP as visual question answering, image-text generation, guided object detection, and more. Finally, Stony Brook University is committed to diversity and inclusion. Thus, it will allow me to connect with diverse groups and extend my network as a Latin student. Additionally, I can impact LatinX initiatives more and serve as a bridge with focused research in the Latam environment. To conclude, I am convinced that Stony Brook University will highly contribute to my professional development as a researcher, and I am motivated to contribute to the Stony Brook University CS program.

Potential advisors

Other activities that you like

Statement of Purpose - Columbia University

Future Agenda: My future research would tentatively be a continuation of my prior work, improving agent capabilities for coherent long-form conversations and the naturalness of agent utterances. I am interested in collaborating with Prof. Zhou Yu because of her work on dialogue generation and real-time interactively systems, and with Prof. Julia Hirschberg for her research on spoken dialogue systems. Given our overlap of research interests, I am confident that a Ph.D. at Columbia will enable me to contribute significantly to my research directions in the pursuit of bringing a dialogue agent such as David to life.



Potential advisors

Statement of Purpose - Last Recommendations

- Start with a draft and then iterate it. (send to home university faculties, advisor, mentors for feedback)
- Add references or images if the university application allows that (It serves to clarify and explain ideas clearly).
- Separate sections in your SoP (Allows readers to quickly identify sections of interest)

Agenda

1) Finding suitable doctoral programs
2) Required materials
3) Standardized exams
4) Recommendation Letter
5) Statement of Purpose
6) Additional documents
7) Conclusions

Additional documents

- Research Statement
    - Motivation for applying, past research experiences, and what research I would like to do at the university
- Personal Statement
    - Personal hobbies or experiences related to your academic interests.
- Open-questions
    - leadership
    - diversity
    - honors
    - scholarships
    - overcoming hard times

Agenda

1) Finding suitable doctoral programs
2) Required materials
3) Standardized exams
4) Recommendation Letter
5) Statement of Purpose
6) Additional documents
7) Conclusions

Conclusions and last suggestions

- Choose your university guided for a **affinity advisor's profile** instead of only **universities reputations.**
- Choose several options (at least **10-15 universities programs**), with well **aligned professor** (at least 1-2 per application).
- Begin the application process early. (Around six months early)
    - Making a good **Statement of Purpose** takes time.
    - It is ideal to give enough time for **recommenders to** make **strong letters**.
    - It is crucial to prepare for required exams (TOEFL, IELTS or GRE). US universities have required minimum scores.

Conclusions and last suggestions

- Look for a **community or friends** that are in the same process.
- Listen to your **undergrad or master's advisor suggestions**.
- BE HONEST !!!!!!
    - It is ok to deepen on details or future research. But not to state fake **declarations or desires.**

Doctoral programs

Thanks!

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