Iniyan Joseph

Application Information

Last Name: Joseph
First Name: Iniyan
Middle Initial:
Application ID: 16406

Submit Date: **Not Submitted**
Last Update: Opened on 1/10/2025

Letter of Recommendation 1 Status: Requested
Letter of Recommendation 2 Status: Requested

Number of Transcripts: 1 (of 1 required)

Contact Information

Email Address: iniyanijoseph@gmail.com
Phone Number: 510-936-4409

Local Address: 8500 Blacktail Trail
McKinney, Texas 75070
Permanent Address: Same

Personal Information

Date of Birth: 9/16/2005
Gender Pronoun: He/Him/His
Sex: Male
Citizenship: U.S. Citizen

Hispanic/Latino: No
Ethnicity: Asian

Pell Grant Recipient: No
Scholarship Programs: N/A
Highest Education Level Achieved by a Parent or Legal Guardian: Doctorate degree

Veteran Status: No
Military Discharge:

Undergrad Information

Undergrad University: The University of Texas at Dallas
University State: Texas
Major: Computer Science
Specialization: Computer Science

Cumulative Credit Hours: 90
Cumulative GPA: 4.00 / 4
Year in School: Sophomore
Expected Graduation Date: 12/1/2025

Research Experience

Previous BTAA SROP Experience: No
BTAA University:
Intensive Research Experience: Yes

Relevant Completed Courses

Letter Grade	Course Name
A	Independent Study Fair Division
A+	Advanced Design and Analysis of Algorithms
A	Discrete Mathematics 1
A	Discrete Mathematics 2
A+	Data Structures and Algorithms

Graduate Interests

Graduate Degree Type Interest:

Ph.D.

Field of Study: Computer Science

Specialization: Computer Science

Top three Institutions at which the student is considering graduate school:

University of Illinois Urbana-Champaign

Purdue University-Main Campus

Harvard University

SROP University Selection

X	University of Illinois		Indiana University
	University of Iowa	X	University of Maryland
	University of Michigan		Michigan State University
	University of Minnesota		University of Nebraska-Lincoln
X	Northwestern University		The Ohio State University
	Penn State University	X	Purdue University
X	Rutgers University-New Brunswick		University of Wisconsin-Madison

University of Illinois

University Statement: I am interested in working with Professor Jugal Garg and Professor Bhaskar Ray Chaudhury on EFX approximations and relaxations. They have authored several seminal papers in this space, and I would like to research with them before my Ph.D to develop mentorship relations and my overall research abilities.

University of Maryland

University Statement: I am interested in working with Professor Aravind Srinivasan on bipartite matching and kidney exchange markets. Researching at UMD under him would give me an opportunity to work and learn from him, build my skills, and build connections before my Ph.D.

Northwestern University

University Statement: I am interested in working with Professor Jason Hartline on mechanism design. He has worked on mechanism design recently, and works with the IDEAL institute at Northwestern, which exemplifies my larger research goals. Researching at Northwestern would give me the opportunity to develop my skills before my Ph.D.

Purdue University

University Statement: I am interested in working with Professor Simina Branzei on chore division. She has worked on incentives in fair division and voting, and researching at Purdue would give me an opportunity to work and learn from her and build my skills before my Ph.D.

Rutgers University-New Brunswick

University Statement: I am interested in working with Professor Mario Szegedy on approximation algorithms. Although I only plan to study a certain set of approximation problems in my Ph.D, working with him would allow me to continue my bachelor's thesis and develop the overall skills necessary for my Ph.D.

Research Statement

When I first began my undergraduate degree, I researched efficient text entry in VR and AR, and co-authored two papers under Professor Jin-Ryong Kim. Designing efficient, practical, and acceptable text entry systems in virtual reality suffers from many mobility and perceptual constraints, and has merited significant research in the past two decades. In our first paper, we studied perceptual issues in the near field, and proposed strategies to reduce inaccuracy and increase performance in such environments. In the second paper, we addressed efficiency in AR typing by enabling text-entry on everyday objects. I was responsible for designing and conducting experiments, analyzing data, contributing to the manuscript. This gave me an opportunity to propose future research directions.

Although I enjoyed HCI, I decided to focus toward algorithms. I enjoy algorithmic problem solving and competitive programming, and wanted to work on useful problems utilizing these skills. This drew me to Economics and Computation, which I found to be both theoretically interesting and to have widespread societal applications. I began an independent study with Professor Emily Fox at UTD to study this, ultimately writing a survey of discrete fair division. This gave me an opportunity to understand discrete mathematics further.

Currently, I am researching approximation algorithms, and intend to continue researching theoretical computer science. Studying theory has been a deeply enriching experience, and I have loved learning about and pushing the frontiers of knowledge. I hope to continue this by studying algorithms and approximation via the SROP program, and eventually pursuing my Ph.D in algorithms.

Personal Statement

I believe that the ultimate goal of research is to make a positive impact on society. This motivates me to pursue a PhD in Economics and Computation (EC) following my Undergraduate degree. Specifically, I hope to research randomized approximation algorithms and relaxations of fair division.

This desire to make an impact has motivated me to do research in various subfields of Computer Science throughout my undergraduate degree. Additionally, I founded the UT Dallas EC Club, and taught other undergraduate students Fair Division and Social Choice. This activity has helped me develop leadership and communication skills as a teacher. I have additionally participated in competitive programming, participating in ICPC SCUSA and the Meta Hacker Cup. These enhanced my research skills and algorithmic thinking.

Working with theoretical CS researchers through SROP will be an excellent opportunity to help me prepare for a successful research career in this space. I look forward to interacting and learning from experts, and establishing connections that will help goals.

Recommendations

Jin Ryong Kim

Submitted on:

Date Requested: 1/6/2025

Department:

Email: jin.kim@utdallas.edu

Institution:

Phone:

Emily Fox

Submitted on:

Date Requested: 1/10/2025

Department:

Email: emily.fox@utdallas.edu

Institution:

Phone: