

Siya Kunde

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Education

University of Nebraska-Lincoln, USA

January 2017 - December 2021 *Expected*

Doctor of Philosophy Student in Computer Science, GPA : 3.952/4

Advisor : [Dr. Brittany Duncan](#)

Research topic : Intuitive Autonomy for Real Users of Small Unmanned Aerial Vehicles (sUAV).

Goa University, India

July 2007 - May 2011

Bachelor of Engineering, Computer Engineering

Publications

3. **S. Kunde**, and B. Duncan, "[Intuitive Autonomy for Real Users of Small Unmanned Aerial Vehicles \(sUAV\)](#)" In the 15th ACM/IEEE International Conference on Human-Robot Interaction (HRI), Pioneers Workshop, IEEE, 2020.

2. **S. Kunde**, S. Elbaum, and B. Duncan, "[Characterizing User Responses to Failures in Aerial Autonomous Systems](#)" In the IEEE Robotics and Automation Letters option, 2020.

1. U. Acharya, **S. Kunde**, L. Hall, B. Duncan, and J. Bradley, "[Inference of User Qualities in Shared Control](#)" In the IEEE International Conference on Robotics & Automation (ICRA), May 2018.

Technical Skills

Python, C, C++, Robot Operating System (ROS), HTML, CSS, JavaScript, Node.js, MATLAB, Tensorflow, bash scripting (basic).

Work Experience (4+ years in Industry)

Graduate Research Assistant

January 2017 - Present

NIMBUS (Nebraska Intelligent MoBILE Unmanned Systems) Lab, UNL, USA

Graduate Research Assistant in the NIMBUS Lab under the guidance of Dr. Brittany Duncan, doing research focused on Human Robot Interaction between Unmanned Aerial Vehicles (UAVs) and novice/expert users who are controlling them.

For various projects, I have designed and developed robust multi-layer applications; designed user studies using various research methods including usability testing, interviews, surveys, eye-tracking, and A/B testing; conducted studies with 200+ participants; analyzed data using pertinent statistical methods; and published papers as primary contributor.

Sr. UI Engineer

September 2014 - June 2016

WebEngage (Webklipper Technologies Pvt. Ltd.), India

Led a three member team on front-end development; utilized an agile system to keep development on-track in a flat-structured and self-motivated environment.

- WebEngage 2.0 : Built the new dashboard application with reusable components. Developed a templating engine complementary to iOS and Android SDKs to render notifications and surveys on users' phones. This tool helps companies engage 250+ million users monthly. Developed using : HTML, CSS, Wordpress, React.JS, jQuery, and JavaScript.

Software Engineer

August 2013 - May 2014

TenTenTen Digital Products Pvt. Ltd., India

The following projects were developed using : HTML, CSS, jQuery, and JavaScript.

- Official IPLT20 Fantasy League : Created a visually pleasing yet highly efficient UI for one of the most followed Cricket fantasy leagues in India which obtained over 1 million users in 2 months.
- Official CLT20 Fantasy League : Single-handedly developed the mobile website front-end for the highly popular cricket fantasy league, CLT20 fantasy league (70,000 users in the first month).

Associate Engineer Technology

January 2012 - August 2013

Virtusa Consulting Services Pvt. Ltd., India

Worked on various long-term client projects and short-term R&D POCs as a part of a 10 member mobility development group. Developed a platform to enable efficient employee administration, payroll services, and time management, using : Sencha Touch 2.0, HTML, JavaScript and CSS.

Graduate Courses

Human-Robot Interaction, Seminar on “Robotics Today”, Deep Learning, Data Mining, Multi-Agent Systems, Software Engineering in Robotics, Graph Theory, Development and Analysis of Algorithms, Design and Analysis of Algorithms, Computer Vision Techniques, Empirical Software Engineering, Operating Systems, Computer Architecture.

NIMBUS Lab Projects (Robots were localized by using Vicon motion capture system)

Collaborative Obstacle Avoidance for Telepresence Robot

Semi-autonomous navigation assistance (with obstacle avoidance) was implemented in *the Double* telepresence robot for study in publication [1].

3D Pattern Replication using sUAV

AscTec Hummingbird sUAV physically replicates patterns drawn by users within a web app (Robot Operating System demo project).

Research Presentations (*Presentation videos were pre-recorded since conferences were moved to online format due to Covid-19)

Paper presentation*

May 2020

International Conference on Robotics and Automation (ICRA), Paris, France

Topic : Characterizing User Responses to Failures in Aerial Autonomous Systems

Paper presentation at Pioneers Workshop*

March 2020

ACM/IEEE International Conference on Human-Robot Interaction (HRI), Cambridge, UK

Topic : Intuitive Autonomy for Real Users of Small Unmanned Aerial Vehicles (sUAV)

Poster presentation at Women in Robotics Workshop

June 2019

Robotics: Science and Systems (RSS) Conference, Freiburg im Breisgau, Germany

Topic : Characterizing User Responses to Failures in Aerial Autonomous Systems

Research demo and presentation at UNL CSE 50th Anniversary

September, 2018

Topic : Characterizing User Responses to Failures in Aerial Autonomous Systems

Presented research at NIMBUS Lab allowing visitors to participate in (a demonstration of) the user study.

Research Mentorship

Undergraduates Nathan Simms, Abby Seibel, Evan Palmer

Summer 2020

Undergraduate Creative Activities and Research Experience (UCARE) Gerson Uriarte

Summer 2020

Undergraduate First Year Research Experience (FYRE) Nathan Simms

Fall 2019, Spring 2020

Undergraduate NSF REU intern Arsha Ali

Summer 2019

Undergraduate Creative Activities and Research Experience (UCARE) Alisha Bevins

Fall 2018

(continued enrollment in MS CS program at UNL starting Fall 2019)

Undergraduate CRA-W DREU intern Riley Goodling

Summer 2018

Awards & Funding

Human-Robot Interaction Pioneers Workshop at HRI 2020	2020
CRA-WP Grad Cohort Workshop 2020	2020
Inclusion@RSS at RSS 2019 Travel Grant (€2500 + registration)	June 2019
Women in Robotics Workshop at RSS 2019 Travel Grant (\$1194)	June 2019
Grace Hopper Celebration (GHC) of Women in Computing 2017 Travel Grant <i>Sponsored by University of Nebraska-Lincoln with support from Google, Facebook, Microsoft, and Intel</i>	October 2017
ROSCon 2017 Diversity Scholarship (\$500 + registration + accomodation)	September 2017
International Women's Day Hackathon : 2nd Runner Up <i>HackerEarth, India</i> <i>JuxtaChoose</i> made users' online shopping experience fun by enabling them to conduct polls amongst their Facebook friends, using product details crawled from multiple sites. Was the global second runners up participating individually amongst hundreds of teams.	6th - 8th March 2015

Service

Reviewer: International Conference for Biomedical Robotics and Biomechanics	2020
Reviewer: International Conference on Ubiquitous Robots	2020
Fellowship Application Evaluator: Undergraduate Creative Activities & Research Experiences (UCARE) program at UNL	2020
Reviewer: ACM/IEEE International Conference on Human-Robot Interaction	2020, 2019
Reviewer: Robotics: Science and Systems	2019

Diversity & Outreach Activities

Nebraska College Preparatory Academy (NCPA) Drones Workshop, UNL Hosted around 100 high school students and mentors at NIMBUS Lab for a summer workshop. Primary activity had the student teams block program a Mambo drone to complete three different obstacle courses.	July 10-11, 2019
Women in Science Conference, UNL <i>"Human-Robot Interaction: How to make robots friendlier and helpful" Workshop</i> Presented an interactive demonstration on robotics and HRI to over 20 high school students and teachers, and shared graduate school experiences to encourage the students to pursue higher studies in Computer Science.	March 30, 2019
Hour of Code & Interactive Tech Fair, UNL Hosted a booth at the tech fair for over 980 young learners and their parents. Activities included interactive demos of telepresence robot operation, obstacle avoidance using LIDAR, flying sUAVs (tethered for user safety), and videos on ongoing lab projects like fire-dropper and water sampling drones. Received organizer feedback that the activities were "meaningful and plant[ed] the "engineering" or "computer science" seeds in their minds and will help us broaden and increase participation in computing."	December 8, 2018
Computer and Basic Skill Tutoring <i>Prerna - Playschool for Life Skills, Goa, India</i> Taught underprivileged girls basic computer skills, and needlecraft at Prerna, a non-profit school in Goa (India) focussing on teaching Science and Math, and trade skills to at risk high school youth.	August 2011 - January 2012