Nalin **Chhibber**

GRADUATE STUDENT RESEARCHER

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Overview

I am a research based Master's student in David R. Cheriton School of Computing Science at the University of Waterloo. I am supervised by Dr Edith Law in the Human-Computer Interaction lab and funded by Saskatchewan-Waterloo Games User Research (SWaGUR) program. My research interests lies on the intersection of Human-AI Interaction and Intelligent User Interfaces. I am currently studying how to effectively combine Human and Artificial Intelligence to create conversational agents that can expand their knowledge on a topic.

Education

M.Math. in Computer Science   *University of Waterloo, Ontario, Canada*

ADVISOR: EDITH LAW (HUMAN COMPUTER INTERACTION GROUP)   *Sept 2017 - Present*

B.Tech. in Computer Science and Engineering   *Indraprastha University, New Delhi, India*

ADVISORS: CHARU ARORA (MSIT), GOPAL KRISHNA PATRA (CSIR-4PI)   *Aug. 2010 - Jul. 2014*

Experience

RSVP.ai Inc   *Waterloo, Canada*

NATURAL LANGUAGE PROCESSING INTERN   *Dec. 2018 - Present*

Developing multimodal interaction techniques for conversational agents.

Google Summer of Code   *Waterloo, Canada*

STUDENT DEVELOPER FOR AIMACODE   *May. 2018 - Aug. 2018*

Worked with Peter Norvig (Director of Research at Google) to design and implement a student-instructor workflow for a new platform. The platform hosts aima-exercises for the fourth edition of the book 'Artificial Intelligence: A Modern Approach'

University Of Waterloo   *Waterloo, Canada*

GRADUATE RESEARCH AND TEACHING ASSISTANT   *Sept. 2017 - Present*

Along with my regular research, I assist course instructors from advance undergrad courses (CS 330, CS 490, CS 349, CS 348) by grading/automating assignments, proctoring exams and conducting weekly personal consultations for students.

Compro Technologies   *New Delhi, India*

FULLSTACK SOFTWARE ENGINEER   *Oct. 2014 - Aug. 2017*

Worked on the full technological stack for web and mobile applications to create next generation e-learning products (e-reader, courseware) that aim to engage students in learning activities.

CERN, GS-Scientific Information Service   *Geneva, Switzerland*

SUMMER STUDENT INTERN   *June. 2014 - Aug. 2014*

Worked at GS-Scientific Information Services group to enrich exiting metadata with data from other libraries and integrate changes into the open source software 'invenio'. Updated metadata was made available on CDS (CERN Document Server) after the internship.

CSIR-Fourth Paradigm Institute   *Bangalore, India*

RESEARCH INTERN, SPARK   *Aug. 2013 - Dec. 2013*

Worked with Gopal Krishna Patra (Principal Scientist, CSIR 4PI) to create a secure cryptosystem inspired by chaos theory. This was a part of CSIR-SPARK (Student Program for Advancement in Research Knowledge).

Skills

Languages

C/C++ JavaScript SQL Shell Scripting HTML/CSS

LaTeX JAVA NodeJS NoSQL Python Markdown Processing

Publications

Typealike: Typing-Friendly Command Postures
Submitted to ACM Conference on Human Factors in Computing Systems (SIGCHI)

Glasgow, Scotland
Conference in May. 2019

Nalin Chhibber, *Edith Law, Daniel Vogel*

Expression of Curiosity in Social Robots: Design,Perception, and Effects on Behaviour
Submitted to ACM Conference on Human Factors in Computing Systems (SIGCHI)

Glasgow, Scotland
Conference in May. 2019

Jessy Ceha, **Nalin Chhibber**, *Edith Law, Dana Kulic, Joslin Goh, Pierre-Yves Oudeyer, Corina McDonald*

Human Perception of Surprise: A User Study
Workshop on Computational Surprise in 41th ACM Conference on Research and Development in Information Retrieval (SIGIR)

Michigan, USA
Jul. 2018

Nalin Chhibber, *Rohail Syed, Mengqiu Teng, Joslin Goh, Kevyn Collins-Thompson, Edith Law*

Prototype Tasks: Improving Crowdsourcing Results through Rapid, Iterative Task Design
Presented on 5th AAAI Conference on Human Computation and Crowdsourcing (HCOMP)

Quebec, Canada
Oct. 2017

Nalin Chhibber *with Stanford Crowd Research Collective*

Crowd Guilds: Worker-led Reputation and Feedback on Crowdsourcing Platforms
In proceedings of the 20th ACM Conference on Computer Supported Cooperative Work and Social Computing (CSCW)

Oregon, USA
Feb. 2017

Nalin Chhibber *with Stanford Crowd Research Collective*

Boomerang: Aligning Worker and Requester Incentives on Crowdsourcing Platforms
In Proceedings of the 29th ACM Symposium on User Interface Software and Technology (UIST)

Tokyo, Japan
Oct. 2016

Nalin Chhibber *with Stanford Crowd Research Collective*

Synchronization of Chaos in Multiple Three-Dimensional Chaotic Maps
In proceedings of IEEE International Symposium on Technology Management and Emerging Technologies (ISTMET)

Langkawi, Malaysia
Aug. 2015

Nalin Chhibber, *Gopal Patra*

Enriching the metadata on Cern Document Server
CERN Document Server Internal Note

Geneva, Switzerland
Aug. 2014

Nalin Chhibber, *Javier Martin Montull, Tullio Basaglia, Jens Vigen*

Projects

Teachable Agents: Conversational agent framework that enables students to interact with a peer agent to learn about a topic of interest. This is an active research project led by professor Edith Law in the University of Waterloo HCI lab.

Curiosity Notebook: Framework to effectively combine Human and Artificial Intelligence to assist teachers in K-12 classrooms. The idea is to augment human teachers (not replace them) by means of virtual teaching assistants that can keep students engaged even outside classrooms. This is an active research project led by professor Edith Law in the University of Waterloo HCI lab.

Typealike Interactions: Typealike is an input technique that uses computer vision and machine learning to identify simple hand postures over the keyboard surface. It supports hand postures which can augment keyboard operations by triggering commands or activating additional input modes without disturbing the natural typing flow.

Cosmic Shooters, **Storykart**, **MarkdownJS**, **Tweebbles** and **ChatJS** are some other projects I built. I am also active on online developer communities like **Stackoverflow (6000+ reputation, 25 badges, 5 bounties)** and **contribute to open-source projects** (KDE, AIMACode, Stanford Crowdresearch, Python FOSSEE TBC).