

**Shubhavi Arya**  
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### Education

#### UNIVERSITY OF MINNESOTA - TWIN CITIES

Minneapolis, MN  
2016 - 2021

BS, Computer Science, Psychology (dual degree) GPA: 3.61

**Awards:** Dean's List

Relevant Coursework: Intro to Statistical Analysis, Intro to Algorithms and Data Structures, Advanced Programming Principles, Operating Systems, Senior Software Project, Internet Programming, Clinical Psychology, Counseling Psychology, Psychological Measurement, Data Analysis, Intro to Research Methods, Abnormal Psychology, Learning and Behavior, Introduction to Psychology, Elementary Computational Linear Algebra, Issues in Computing, VR and 3D Interaction, Discrete Structures 1, Microcomputer Systems Architecture, Software Engineering Approach to HCI, Developmental Psychology, Microcomputer Operating Systems, Discrete Structures 2, Intro to C++, Intro to Programming 1 & 2, Gaming - Real Time Systems, Intro to Software Engineering, Physics I & II, Calculus I & II, Biology and Society, Chemistry

#### NORTH DAKOTA STATE UNIVERSITY

Fargo, ND  
May 2017 - May 2018

Graduate level coursework, Software Engineering GPA: 3.667

Relevant Coursework: Foundations of Digital Enterprise, Software Construction, Software Project Planning and Estimation

#### ITIL Foundations - IT Service Management

Certification

July 2017

#### A-Levels (Edexcel and University of Cambridge)

Maths, Physics, Biology, Chemistry, Business Studies, English

2014 - 2016

#### Canadian International School

IB MYP Scholarship Recipient, MYP Academic Distinction Award

Singapore, Singapore  
2012 - 2014

### Technical Skills

**Programming:** C, C++, C#, Java, Python, MATLAB, R, JavaScript, MySQL, HTML, CSS, React Native, MongoDB, Jest, PHP, Ajax, Psychopy, PyGaze, Django, Flask, XML, Flash, NodeJs, Firebase, jQuery, JSON, Bootstrap, Angular Js, Unix shell scripting, ASP .Net, Java Server Faces, Java Server Pages, Java Beans, Express, OCaml, Scala

**Frameworks:** Spring, Hibernate, Struts, Dojo, Prototype, JUnit, Gradle, ANT

**Technology:** SPSS, Docker, FileZilla, Jenkins, GitLabs, SPRING, MuleSoft, CI/CD, InVision Studio, Git, DaVinci Resolve, Microsoft Office Suite, Adobe Creative Suite, Unity, Google SketchUp, Final Cut Pro, Avid Media Composer, Maya, Flame, Toon Boom Harmony, Stop Motion Pro

**Operating Systems:** Windows 10/ 8/ 7, MAC OS X and Linux

**Web Design:** Designed [www.shubhaviarya.com](http://www.shubhaviarya.com), [www.highschool.shubhaviarya.com](http://www.highschool.shubhaviarya.com), <http://adventuresofmalia.shubhaviarya.com/>

### Publications

“Comfort Levels of Modern Forms of Therapy” accepted to be published October 2020 issue of **International Journal of Health Science and Research**

“New Technologies and Applications of Motion Tracking in Virtual Reality Systems” accepted to be published October 2020 issue of **International Journal of Advanced Research in Computer Science**

“Influence of Foreign Direct Investment on Indian Financial Systems” Published in the **International Journal of Management and Commerce Innovations** ISSN 2348-7585, Vol 3 Issue 2, October 2015 – March 2016

“Big Data with Cloud Computing” published in **International Journal of Computer Science and Information Technology Research**, ISSN: 23481196(print); ISSN: 2348-120X(online), Vol. 4, Issue 4, October 2016 – December 2016

“Computational Use of Vectors and Matrices” published in **International Journal of Information Technology and Systems**, ISSN: 2277 – 9825, Vol 4, No.2, Month: July – Dec 2015

### **Experience**

**SMALL SATELLITE RESEARCH GROUP, University of Minnesota** Minneapolis, MN  
**Research Assistant** Oct 2020 - Present  
Programming tools for small satellites and aerospace systems to answer fundamental and applied questions in science and engineering

**DEPARTMENT OF PEDIATRICS , University of Minnesota** Minneapolis, MN  
**(Employee) Research Assistant** Sep 2020 - Present  
**Supervisor:** Dr. Sarah Cusick  
Assisting with the OptiM. Study - Optimizing benefits while reducing risks of iron in malaria-endemic areas. OptiM is a randomized, placebo-controlled trial of daily oral iron therapy started concurrently with (immediate iron) or 28 days after (delayed iron) antimalarial treatment in Ugandan children with uncomplicated malaria and iron deficiency.  
Duties include: Cleaning and maintaining research databases. Collaborating with research team both in Uganda and UMN.

**Translational Research in Cognitive and Affective Mechanisms Laboratory,**  
**Department of Psychology, University of Minnesota** Minneapolis, MN  
**(Employee) Research Assistant** May 2020 - Present  
**Supervisor:** Dr. Angus MacDonald  
Part of a team investigating cognitive and affective processing studying a wide range of psychopathology including but not limited to drug use and addiction.  

- Worked on Task Effort - an experiment trying to study motivational factors behind the choices that people make and how those choices change based on several factors. Programmed and coded in React JS, Electron and JS-Psych to get the experiment working for the web and hosted the experiment and configured the database on Firebase. Link to experiment: <https://task-effort-c66d2.web.app/>
- Worked on Add It Up - a psychological experiment. Programmed in Javascript, HTML, CSS, Bootstrap and JS-Psych. Hosted the experiment on Firebase. Configured the experiment with Amazon Mturk and linked it to Qualtrics to collect data. Link to the experiment: <https://add-it-up-4d4da.web.app/>

**FAMILEE LAB (Race, Ethnicity, Migration and Mental Health),**  
**Department of Psychology, University of Minnesota** Minneapolis, MN  
**Research Assistant** May 2020 - August 2020  
**Supervisor:** Dr. Richard Lee  
Assisted in carrying out a research study about psychological impacts of COVID-19 on university students.

**LIM LAB, Department of Psychiatry, University of Minnesota**  
**Research Intern**

Minneapolis, MN  
September 2019 - September 2020

**Supervisor:** Dr. Kelvin Lim, MD

**Github Repository:** <https://github.com/aryashubhavi/ExaminerByNIH>

- Re-developed EXAMINER by National Institute of Health, a neuropsychological test battery to assess domains of executive function. EXAMINER was originally designed in Psychopy 1.76 using python. Re-developed NIH EXAMINER in Psychopy 3 using python 3 to suit the growing demands of psychological science.
- Developed EXAMINER for the web using Javascript, JS-Psych Bootstrap, CSS and HTML. Link to the battery: <https://pages.github.umn.edu/aryax014/Examiner-JS/>

**GROUP LENS LAB, Department of Computer Science, University of Minnesota**  
**ProDUCT Researcher**

Minneapolis, MN  
September 2019 - December 2019

**Supervisor:** Dr. Lana Yarosh, Will Lane

**Github Repository:** <https://github.com/aryashubhavi/FlipDoubt/>

Research in computer science, social computing and human-computer interaction. Part of a team working on a web based app FlipDoubt developed in JavaScript, MongoDB, CSS, HTML. Performed testing using Jest. FlipDoubt used Amazon MTurk to present a positive version and perspective of negative thoughts entered by the user in the application. FlipDoubt is based on the idea that a different perspective on user's negative thoughts and frustrations can lead to decreased anxiety, happiness, lower stress and increased motivation.

**HEALTH PSYCHOLOGY LAB, Department of Psychology, University of Minnesota**  
**Research Assistant**

Minneapolis, MN  
September 2019 - Present

**Supervisor:** Dr. Alexander Rothman, Erin Standen

**Github Repository:** <https://github.com/aryashubhavi/hearty-carrot/>

Multidisciplinary work in computer science and psychology. Part of Hearty Carrot research study, one of the first studies investigating the utility and impact of calorie-tracking apps and to identify which features are maximally helpful and minimally harmful to people's behavioral and psychological health.

**CS Related tasks:** Programming the calorie tracking mobile app 'Hearty Carrot's sdk and making necessary changes in the app for progressing the research study. Worked on mobile app development for Hearty Carrot using React Native, Java Script, Firebase and Expo and publishing the app to Apple App Store and Google Play.

**Psychology tasks:** Running participants, coordinating participant communication, data management, and participant recruitment.

**Inherent Technologies**

Phoenix, Arizona and New Delhi, India  
**August 2016 - Present**

**Full Stack Software Developer**

- Part of an Agile team using Test Driven Development.
- Developed applications using Java Server Faces, SPRING Boot, Java Script, HTML, CSS, SQL and e-commerce integration using Broadleaf Commerce.
- Built and improved testing, development, and deployment pipelines using Node, NPM, Yarn, Webpack, Mocha, Visual Studio Online, and many other technologies.
- Developed, tested and implemented enhancements to desktop and mobile platforms.
- Created and Enhanced SQL queries used within applications. Developed SQL scrips to perform schema changes, create stored procedures, create views and data cleanups.
- Create and maintained a single page AngularJS application.

**Projects**

**eService**

- Designed an end-to-end web application for providing a single platform for booking various services like plumbing, electrical etc.
- Implemented the Java MVC framework
- Used HTML, CSS template, Java and MySQL for developing the application

**Employee Data Management System**

- Designed an interactive system where data of the employees can be manipulated by using various methods and then deployed it on AWS EC2 instance, so it can be accessed from anywhere using the instance's URL.
- Creation of the front end was HTML-JSP based and the back end was made using Java and SQL workbench database. Made the database connections using Hibernate framework.

## **WOMEN'S ADVOCATES**

Minneapolis, MN

### **Volunteer, Violence Prevention Education (Health Track)**

March 2020 - Present

Raising awareness about domestic violence. Attend monthly education team meetings. Conduct presentations in the community specifically health-oriented organizations (women's clinics, veterinarian clinics, dental clinics, hospitals).

## **UMN FOUNDATION, University of Minnesota**

Minneapolis, MN

### **Student Development Representative**

August 2019 - November 2019

Contacting University of Minnesota alumni and friends via phone in order to update alumni records, share information on campus and departmental events, and gain support through financial contributions for colleges and departments on campus.

## **College of Chemical Engineering and Materials Science, University of Minnesota**

Minneapolis, MN

### **Student IT Support**

June 2019 - September 2019

Acting in support of systems administrators to support multiple University units with Active Directory. Adding computers to Active Directory and confirming their Group Policies are applied correctly. Managing \*nix computers with central configuration management tools. Installing and maintaining desktop computer hardware and peripherals, operating systems, and application software for computers used by department faculty, staff, and undergraduate and graduate students. Documenting daily tasks using web-based work-tracking software. Creating and maintaining end-user support documentation using Google Docs and Wiki software. Providing support by telephone, email, and in person for departmental and University services, including web, database, Active Directory, and file sharing services.

## **CHILDREN'S HEARTLINK**

Edina, MN

### **Advocacy Intern**

May 2019 - November 2019

Work closely with International programs team on global health programming. Assist with planning and development of advocacy activities and new advocacy strategy development. Conduct research on tools, and resources, fundraising, and advocacy. Assist with writing and development of advocacy and educational materials and reports. Attend and participate in advocacy related office meetings. Some translation work. Assist with developing and tracking traditional and social media communications content. Compile and track a wide range of information and program data, maintaining accuracy and completeness.

## **SimPortal - UNIVERSITY OF MINNESOTA MEDICAL SCHOOL**

Minneapolis, MN

### **Volunteer**

June 2019 - Present

Work with surgeons, anesthesiologists, physicians, and Ph.D. educators to assist with the training for medical students, residents, and physicians. Learn about High Fidelity Human Patient Simulators, Virtual Reality Simulators, and cutting edge simulator design with SimPORTAL and industry partners.

## **NATIONAL INSTITUTE OF TECHNICAL TEACHERS TRAINING AND RESEARCH**

Chandigarh, India

### **Research work in Physics, Mathematics and Computer Science**

2015

Performed research work in Astronomical Physics, Computational Statistics and Mathematics under the guidance of professors at National Institute of Technical Teachers Training and Research, India. Delivered lecture on 'Internet Technologies: Internet Operations, Internet Protocol and Transmission Control Protocol' to a group of about 20 people consisting of PhD scholars and lecturers.

## **MAGGI STAR PRODUCTIONS**

February 2015 - Present

**Director**

Directed, wrote and edited over 7 films including feature films, short films documentary films and animated films. Films screened in over 10 countries in over 40 international film festivals. Won and nominated for over 5 international awards. Notable films “Aniyah”, “Adventures of Malia”, “Bella”, “Put on a Happy Face”. See Filmography ([www.shubhaviarya.com/filmography.html](http://www.shubhaviarya.com/filmography.html))

**VIBORG ANIMATION FESTIVAL**

The Animation Workshop, Viborg, Denmark

**Animator**

July 2012

Created animation movie ZAP using cutout animation techniques. Nominated for Eye of Animation Film Awards. Invited to an exchange program at the Center for Animationspædagogik, The Animation Workshop (VIA University College), Kasernevej, Viborg, Denmark. Learnt professional animation skills and had the opportunity to create animation for the Viborg Animation Festival during the exchange program. Saw the production process of big companies including Walt Disney.

**HARVARD MODEL UNITED NATIONS CHINA**

Beijing, China

**Assistant Director in Non-Governmental Organizations**

March 2015

Assisted the director in moderating in-committee discussion and answering delegate queries. Communicated and advised the delegates on influencing policy making in different committees in the capacity of a Non-governmental organization. Observed Non-Governmental Organizations' delegates in different committees including Legal Committee, World Health Organization, Human Rights Council throughout the conference

**REIMS INTERNATIONAL MODEL UNITED NATIONS**

Sciences Po. Paris, Reims, France

**Communications and Public Relations Manager for Asia, Vice-Chair for UN Environment Program**

Worked directly under the RIMUN Secretary General and Director of Communications. Sent invitations to over 200 universities for attending RIMUN. Designed a flyer giving details about the conference. Wrote and submitted a recap article to Best Delegate organization (<http://bestdelegate.com/reims-international-model-united-nations-2014-recap/>). Contacted UN Secretary General Ban-ki-moon's office and got a letter from his office for RIMUN encouraging delegates to participate in Model UN

**YALE MODEL UNITED NATIONS**

Seoul, South Korea

**Assistant Director in Economic and Financial Committee**

January 2014 – May 2014

Worked directly under the Under Secretary General of Committees and Director for Economic and Financial Committee. Identified potential examples for research under the topic area of 'Ensuring equitable distribution of natural resources'. Edited the background guide in collaboration with the co-chairs. Received and collected position papers from the delegates. Researched the rentier state situations in Saudi Arabia, Oman, UAE, Qatar and Bahrain. Wrote the topic guide update on the diversification of rentier states.

**STAND: A Student Anti-Genocide Coalition**

[www.standnow.org](http://www.standnow.org)

**Member of Student Leadership Team**

2014 - 2016

Responsibilities included writing blog articles on a range of topics relating to mass atrocities and genocide prevention on a weekly basis, using SEO blog marketing strategies and tactics, increasing blog subscribers and expanding STAND blog's overall reach.

**WINTER SPECIAL OLYMPICS WORLD GAMES**

Pyeongchang, South Korea

**Trainer and mentor for figure skating**

2013

Guided and demonstrated the skills and techniques of figure skating including spins, jumps, arabesque and footwork. Trained 4 skaters for women's single, men's single and pairs skating event. Assisted in costumes and choreography. My trained athletes Raj Kumar Tiwari and Kirti Kalra won gold medal in singles figure skating event, two silver medals in pair skating event and two other athletes won bronze medal in pairs figure skating event.

**Honors and Awards**

- Received **RIT International Scholarship worth \$72000** for pursuing Software Engineering at the Rochester Institute of Technology, New York, USA. 2016

- Received **Academic Scholarship worth S\$10,000** for pursuing the IB Diploma Program (Grades 11 and 12) at the German European School, Singapore. 2014
- Shortlisted for the **IB Diploma Scholarship worth INR 46,00,000** for two years (Grades 11 and 12) at the Global Indian International School, Singapore. 2014
- Received **merit-based scholarship worth S\$63,962** for pursuing the IB Middle Years Program (Grades 9 and 10) at the Canadian International School, Singapore. Highest scholarship received by an Indian high school student. Students from 43 nationalities participated for this only one prestigious scholarship of Canadian International School, Singapore. 2012
- Received **INCEF (International Children Equity Fund) scholarship** worth INR 800 for excelling at National level in Math, Science and English. 2009
- **Verbal Commendation Award** at the United World College South East Asia Conference India (MUN) representing Venezuela in Special Political and Decolonization Committee. Youngest participant in the conference. 2012
- **Second Prize in India worth INR 10,000** in the ‘Think Sydney Think Singapore Airlines’ contest by Singapore Airlines 2011
- **Winner in Category 4** (ages 15-17) in the International painting competition ‘**Achieve Thru Art Singapore Competition**’ by Changi Airport, Singapore and other airlines. More than 400,000 students in Singapore, approximately 100 nationalities participated in this visual art competition to win air tickets to 12 destinations around the world. My artwork ‘**Religions**’ was a **winner of destination Chennai, India**. My artwork ‘**Women of Different Countries**’ was a **winner of destination Mumbai, India**. My artwork ‘**Festivals**’ was a **winner of destination Delhi, India**. Received 6 return tickets from Singapore to Delhi, Mumbai and Chennai as well as a \$20 Changi Airport shopping voucher in the prize. November 2013
- Featured in the article ‘**The Multi-Talented**’ in February 2015 issue of English edition of ‘**DLF City News Magazine**’, Gurgaon, India. 2015
- Featured in the article ‘**The Yellow Spring Saga**’ in 7 March 2014 issue of English edition of ‘**Suburb Magazine**’, Gurgaon, India. 2014
- Honored and received a **Certificate of Appreciation** from the Indian Government for exceptional talent and achievement in film-making on 15 August 2015

#### **Skills & Interests**

**Languages:** Fluent Hindi, beginner French and beginner swedish

**Interests:** Animation, Manga Comics, Film making, photography, painting, traveled extensively in Europe and Asia