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SUMMARY

- An [award-winning](#) (James Dyson Award, Singapore - 2017) Inclusive Design Technologist who is passionate about designing user-centered solutions and memorable experiences for all
- Planned and conducted design research with deaf and older adults
- Research interests: **Social Computing, Usable Privacy and Security, Inclusive Design and Design Research**

A. EDUCATION

Master of Engineering (by Research) in Information Systems Technology and Design

Singapore University of Technology and Design | Singapore | Sep 2018 - Aug 2021

- Part-time research master programme under Supervision of [Asst Prof Simon Perrault](#) (HCI), [Prof Jianying](#) (Security) and [Hyowon Lee](#)(HCI)
- Awarded National Cyber Security Scholarship (renamed to [Singapore Digital Scholarship](#))
- Master Thesis titled: [Towards Inclusive Design of Mobile Privacy and Security](#), covering following areas: **Usable Privacy and Security** and **Inclusive Design**
- Member of SUTD HCI Lab, SUTD HUMAN Augmentation & Interaction Laboratory ([SHUAILAB](#))
- **Skill sets acquired:** experimental design, literature review, qualitative and quantitative analysis, designing user studies, organizing design workshops, collaborating across multiple disciplines (healthcare, human-computer interaction, cybersecurity and design)

Bachelor of Engineering in Information Systems Technology and Design | Magna Cum Laude

Singapore University of Technology and Design | Singapore | May 2014 – Sep 2017

KTH Royal Institute of Technology | Sweden | Fall 2016

- Attained specialization in **HCI**
- Awarded [Singapore Industry Scholarship](#)
- Led design team in winning the James Dyson Award 2017, [Project PERI](#) (Singapore)
- Undergraduate researcher, under Prof [Suranga](#), [SUTD-MIT International Design Center \(IDC\)](#)
- **Skill sets acquired:** design thinking, user interface design, cross-cultural product design, performing statistical analysis, cross-platform app development, IoT prototyping, network security, computational fabrication, 3D printing, ethnography, contextual enquiry, conducting field studies, digital sociology, statistical analysis, algorithms and game design

Diploma in Computer Engineering with Merit | Silver Medalist

Temasek Polytechnic | Singapore | May 2008 – Apr 2011

- Specialization in Software and Hardware Engineering
- Diploma Plus certificate in French and Japanese
- Member of polytechnic's WorldSkills Singapore team- PC and Network support Category
- **Skill sets acquired:** Electronic hardware prototyping, software engineering and development, system administration and networking and security

B. RESEARCH EXPERIENCE

Postgraduate Researcher | Master of Engineering by Research

Singapore University of Technology and Design | Singapore | Sep 2018 – Aug 2021

- Thesis: [Towards Inclusive Privacy and Security for Older Adults](#)
- Problem scoping and literature review in Usable Privacy and Security, Inclusive Design
- Designed multi-phased user studies and obtained Institutional Review Board(IRB) approval to conduct studies on Human Subjects (Adults and Older adults)
- Conducted user interviews with older adults, tech trainers, caregivers to identify needs and in the area of usable privacy and security
- Conducted virtual design sprints with multidisciplinary stakeholders to generate inclusive design solutions in the area of mobile privacy and security for older adults
- User Interface Testing, Heuristic Evaluation and Usability Analysis
- Presented [poster](#) at Symposium of Usable Privacy and Security (SOUPS20), USENIX20
- Planning, Executing and Facilitating Design Workshops via Miro and Zoom
- Certified to conduct studies on Humans - [CITI Social and Behavioural Research Certification](#)

Undergraduate Researcher | SUTD-MIT International Design Centre

Singapore University of Technology and Design | Singapore | Sep 2018 – Aug 2021

- Awarded ≈ SGD 10K research grant to work on research proposal
- Drafted a design research methodology, recruited research participants, conducted ethnographic observations and semi-structured interviews with participants.
- Co-authored a short paper on the use of a single pixel to convey information about sound to the deaf and hard of hearing community under the supervision of Professor Suranga Nanayakkara.
- A [short paper](#) was published at OzCHI 2016 conference in Tasmania, Australia

C. WORK EXPERIENCE

Research Associate | Digital Health

Saw Swee Hock School of Public Health, National University of Singapore | Sep 2021 – Present

- Working under Prof. Gerald Koh and Dr Pin Sym Foong at [Telehealth Core](#)
- Researching on Patient-Centered Care, Trust and Privacy
- Conducting user studies on Digital Patient Decision Aids (PtDAs) for Osteoporosis and Urology (PSA) patients
- Solution Architect - Migration and Re-Architecture of Digital Health Platform

Consultant | Digital Modernization

Hitachi Vantara | Singapore | Apr 2019 – Sep 2021

- Service Delivery and Project Management – Designed and delivered a customized DialogFlow chatbot application integrated with building management and ticket management systems. Managed on-shore and off-shore resources, project timelines, budget and risks.
- Customer Engineering - Developed business dashboards and led IT infrastructure team
- Worked closely with cross-functional teams to identify and prioritize business and technical requirements based on analysis project goals, stakeholder needs and risks.

Technical Consultant | IT Infrastructure

Hitachi Asia Ltd | Singapore | Sep 2017 – Mar 2019

- Pre-sales Consulting – Assisted in preparation of RFIs, RFQs and designing of system architectures for government tenders and participated in customer engagements.
- Business Innovation – Emerged among top 3 finalists globally within Hitachi in an intrapreneurship competition by leading a team of cross-departmental employees to ideate an innovative solution in the area of business process improvement.

Intern | IT Infrastructure

Hitachi Asia Ltd | Singapore | May 2016 – Aug 2016

- Pre-sales Infrastructure Consulting – Assisted consultants in preparation of pre-sales materials for project proposals.
- System Administration - Assisted with upkeep of department's application servers hosted in co-located data centre.

Technical Support Officer | Temasek Polytechnic

Temasek Polytechnic | Singapore | Oct 2013 – Apr 2014

- Teaching Assistant – Conducted supplementary classes for diploma students covering digital fundamentals and electronics
- Lab Assistant – Assisted lecturers with lab setups and developed a Raspberry Pi-based interactive student notice board

Technical Support Officer | Temasek Polytechnic

Temasek Polytechnic | Singapore | Apr 2011 – Aug 2011

- Video Production – Captured video footage of lectures and workplace hazards for onboarding to e-learning platform and creating safety awareness video
- Video editor – Performed post production of media using non-linear editing platforms such as Adobe Premiere Pro and Adobe Audition

D. DESIGN EXPERIENCE

- **Project PERI** | Assistive Device for the Deaf and hard of hearing community
 - Won the James Dyson Award, National Level (2017) - [LINK](#)
 - Presented at the GlobalGradShow 2018 - [LINK](#)
 - Conducted interviews with Deaf individuals through help of interpreters to develop and assistive device which translates auditory information into visual cues
 - Led planned and execution of Deaf-aloper workshops with assistance from volunteers and Social Enterprise ([Theseabilities](#)) to equip Deaf community in Singapore with basic maker skills
- **MSD Digital health studio** | Capstone Project
 - Designed a intelligent connected space - Digital health studio- at MSD's Singapore IT Hub by working with a multidisciplinary team comprising of architecture, electronic engineering, systems engineering and information systems background
 - Designed UI prototypes using Adobe XD, developed application using Processing and integrated with room AV and RGB lighting to control the mood of the space by analysing footfall monitoring and booking systems
- **Foodify** | Concept Spotify-inspired grocery shopping app
 - Conducted interviews with Chinese and Indians Singapore residents to identify problems and needs in the area of online grocery shopping
 - Analysed state of the art solutions and performed competitor analysis of services
 - Developed prototype wireframes of grocery shopping application using Adobe XD with a design inspired by Spotify-style curated grocery shopping lists which caters to lifestyles of busy individuals

- **UncleBank** | Elderly friendly banking application
 - Performed usability testing of Singapore banking apps amongst older adults by conducting user studies and interviews
 - Performed literature review of mobile banking habits amongst older adults
 - Redesigned applications and developed wireframe prototypes using Adobe XD
 - Conducted usability analysis of prototypes
 - Generated heuristics for designing inclusive banking apps
- **Smahjong** | Smart IoT Mahjong with tangible 3D printed cubes for older adults
 - Co-Led team in designing and development of Smahjong
 - Developed IoT mahjong using tangible 3D printed tiles, hardware IoT board and an accompanying Android application

E. UX SKILLS AND COMPETENCIES

- User research design, participant recruitment, contextual inquiry
- Design thinking Workshop Facilitation, Planning and Execution
- Experience recruiting and interviewing research participants
- Obtaining university ethics approval for studies on Human
- Conducted ethnographic studies and observation
- Generation of personas and customer journey
- Usability testing with design prototypes
- Competitor and Qualitative analysis
- Implementing remote user studies
- Cross-cultural product design
- A/B and Split testing
- Ethnography

F. UX RESEARCH TOOLS AND SOFTWARE

- Qualitative Data Analysis: ATLAS.ti, Excel
- Survey: Google Forms, Qualtrics, TypeForm
- Quantitative Analysis: R, Excel, Google Sheets
- User interface Prototyping: AdobeXD, Marvel and Figma
- Electronic and IoT prototyping: Raspberry Pi, Arduino, Particle Photon and ESP8266
- Development IDEs: Android Studio, Eclipse, VSCode, Unity, Arduino, Processing
- Scripting and coding: Processing, Python, Java, JavaScript, HTML, C++ and Flutter
- Speech to Text: Otter.ai, Google Speech to Text
- Interactive Prototyping: Processing and Arduino
- Publication: Overleaf and LaTeX

G. PUBLICATIONS

- [Towards Inclusive Design of Mobile Privacy and Security](#) (2021)
- [Towards Inclusive Design for Privacy and Security: Perspectives from an Aging Society](#) (2020)
- [Towards Universal Digital Access in Singapore](#) (2020)
- [Towards one-pixel-displays for sound information visualization](#) (2016)

H. PROFESSIONAL CERTIFICATIONS

- CITI
 - [Social & Behavioral Research - Basic/Refresher](#) (Oct 2021)
- edX
 - [Health behaviors: from individuals to larger contexts](#) (Dec 2021)
- Google Cloud
 - [Professional Cloud Architect](#) (Aug 2019)
 - [Professional Cloud Network Engineer](#) (Aug 2020)
 - [Associate Cloud Engineer](#) (Dec 2019)
- Adobe
 - [Adobe Certified Expert - AEM Sites Business Practitioner](#) (Jul 2020)
- Azure
 - [Azure Fundamentals](#) (Aug 2020)
- Agile Project Management
 - [Certified Scrum Master](#) (May 2020)
 - [Certified Scrum Product Owner](#) (Dec 2019)

I. ACHIEVEMENTS

Awards

- **James Dyson Award, National Level - [Project PERI](#) (2017)**
- People's Association Community Long Service Award - 10 years of service (2017)
- Electrolux Innovation Award - KTH Open and User Innovation course (2016)
- Wilmar Global Exchange Award - Student exchange to Sweden (2016)
- Best Signal Operator, Signal Operator Course, Signals Institute - National Service (2012)
- SINDA Excellence Award - Awarded to top Indian students in Singapore (2011)
- Temasek Polytechnic Course Silver Medalist (2011)
- Temasek Polytechnic Director's List - Top 10% of Cohort (2010 and 2009)

Scholarships

- National Cybersecurity Postgraduate Scholarship, IMDA and NRF (Sep 2018) - Fully funded
- Singapore Industry Scholarship (SgIS), MOE and EDB (Aug 2013) - Fully funded

J. LEADERSHIP EXPERIENCE

- Organizer and Project Lead, [Deafaloper Workshops](#) - Maker workshops for the Deaf (2018)
- Member, Alumni Advisory Board, ISTD Pillar, SUTD (2018 – Present)
- President, Rotaract @ SUTD, SUTD (2015 – 2016)
- President, Information Systems Technology and Design Student Board, SUTD (2015 – 2016)
- Vice Chairman, Tampines West Youth Exec Committee, People's Association (2015 – 2019)
- Vice President, Computer Engineering Club, Temasek Polytechnic (2009 – 2010)

K. PUBLIC SPEAKING / PRESENTATION EXPERIENCE

- Speaker, Career Guidance Seminar, Dunman Secondary School (2020)
- Speaker, 5-minute Lightning Talk, "On the Road to Digital Inclusion: Designing Inclusive Security and Privacy Alerts", SOUPS 2019, Co-located with USENIX 2019
- Panelist/Speaker, ISTD Pillar Talk, SUTD Open House (2017, 2018 and 2019)

L. VOLUNTEERING EXPERIENCE

- Committee Member, Tampines West Community Club, People's Association (2007 – Present)
- Design Workshop Facilitator, SUTD-CGH COVID-19 Seminar and Ideation Challenge (2020)
- Mentor, Inclusive Spaces @ Frasers Property Designathon (2019)
- Venue Operations Assistant, Tampines Bike Park, Singapore Youth Olympic Games (2010)
- English Trainer, Laos Overseas Community Project, Temasek Polytechnic (2010)

M. REFERENCES

- Hyowon Lee, Senior Research Associate, Dublin City University hyowon.lee@dcu.ie
- Jianying Zhou, Professor, ISTD, SUTD, jianying_zhou@sutd.edu.sg
- Simon Perrault, Assistant Professor, ISTD, SUTD, simon_perrault@sutd.edu.sg

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