

# Pravar Jain

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## Education

**National University of Singapore**, Faculty of Engineering Aug 2015 – Present  
M.Eng. in Biomedical Engineering, CAP 4.25 / 5  
Evolution Innovation Lab. Advisor: Yeow Chen Hua, Raye

**Manipal University**, Manipal Institute of Technology Jul 2011 – Jul 2015  
B.Tech. in Biomedical Engineering, CGPA 9 / 10  
Advisor: Devadas Bhat

## Awards and Honors

**SG\$ 180,000 Grant** – SG Enable Tote Board-Enabling Lives Initiative Grant 5 2017  
**Young Creators Award** – IES Prestigious Engineering Achievement Awards 2017  
**ACM SIGCHI Student Scholarship** – 50<sup>th</sup> Celebrations of the A. M. Turing Awards 2017  
**2<sup>nd</sup> position (2011-15)**, Biomedical Engineering – Manipal Institute of Technology 2015  
**1<sup>st</sup> position (AY 2013-14)**, Biomedical Engineering – Manipal Institute of Technology 2014  
**Invitation** – Inaugural MITx Global Entrepreneurship Bootcamp (declined) 2014  
**3<sup>rd</sup> position (AY 2012-13)**, Biomedical Engineering – Manipal Institute of Technology 2013  
**Guinness World Records** – World's largest coding marathon (18 Hours), Windows 8 2012

## Employment Experience

**National University of Singapore**, Interactive & Digital Media Institute Oct 2015 – Present  
*Research Engineer*, Keio-NUS CUTE (Connective Ubiquitous Technology for Embodiments) Center  
Advisors: Ellen Yi-Luen Do, Nimesha Ranasinghe, Yen Ching Chiuan  
Exploring novel sensing & interaction techniques for sensory augmentation in AR/VR.

**National University of Singapore**, Advanced Robotics Center Dec 2015 – Present  
*Student Researcher (Graduate)*, Evolution Innovation Lab  
Advisor: Yeow Chen Hua, Raye  
Exploring novel sensing techniques for feedback control of soft-robotic actuators.

**National University of Singapore**, Singapore Institute for Neurotechnology Jan 2015 – Jun 2015  
*Student Researcher (Undergraduate)*, Biorobotics Lab  
Advisor: Yu Haoyong  
Continuous health monitoring & remote diagnostic system.

**HCG Oncology - Center of Excellence**, Bangalore - India Jun 2013 – Jul 2013  
*Intern*, Department of Biomedical Engineering  
Preventive maintenance and calibration of biomedical equipment.

**Fortis Hospitals – Cunningham**, Bangalore - India Dec 2012 – Jan 2013  
*Intern*, Department of Biomedical Engineering

## Peer-reviewed Publications

- [1] Ranasinghe, N., Jain, P., Karwita, S., Tolley, D., & Do, E. Y. L. 2017. Ambiotherm: Enhancing Sense of Presence in Virtual Reality by Simulating Real-World Environmental Conditions. To appear in Proceedings of the 35th SIGCHI Conference on Human Factors in Computing Systems (Denver, Colorado, May 6 – 11, 2017). CHI '17. ACM, New York, NY.
- [2] Ranasinghe, N., Jain, P., Karwita, S., & Do, E. Y. L. 2017. Virtual Lemonade: Let's Teleport Your Lemonade! In Proceedings of the 11th International Conference on Tangible, Embedded and Embodied Interactions (Yokohama, Japan, March 20 – 23, 2017). TEI '17. ACM, New York, NY. 183-190.
- [3] Ranasinghe, N., Jain, P., Tolley, D., Karwita, S., Yilei, S., & Do, E. Y. L. 2016. AmbioTherm: Simulating Ambient Temperatures and Wind Conditions in VR Environments. In Proceedings of the 29th Annual Symposium on User Interface Software and Technology (Tokyo, Japan, October 16 – 19, 2016). UIST '16. ACM, New York, NY. 85-86.

## Peer-Reviewed Abstracts / Posters / Invited Presentations

- [1] Ranasinghe, N., Jain, P., Karwita, S., Tolley, D., Chew, B., Bansal, A., & Do, E. Y. L. 2017. Enriching the Lives of Deafblind Individuals Through Sensory Substitution (Interfaces to Interact, Communicate, and Entertain). In Proceedings of the SIGCHI Conference on Human Factors in Computing Systems (CHI '17) - Workshop on Amplification and Augmentation of Human Perception (Denver, Colorado, May 7, 2017). Amplify@CHI '17. ACM, New York, NY.
- [2] Jain, P., Ramachandran, G.K., Yeow, R.C.H. 2016. Graphite-based resistive stretch sensor for feedback control of soft actuators. Podium presentation at the 16th International Conference on Biomedical Engineering. (Singapore, December 7 – 10, 2016). ICBME '16. IFMBE.

## Patents

- [1] Ranasinghe, N., Yan, L., Lin, L. Y., Jain, P., Tolley, D., Karwita, S., Nguyen, T. N. T., Yen, C. C., & Do, E. Y. L. 2017. Augmenting Flavors with Virtual Taste, Smell, and Color Sensations. US Provisional Patent No. 62/472,777.
- [2] Ranasinghe, N., Jain, P., Tolley, D., Karwita, S., Yilei, S., & Do, E. Y. L. 2016. AmbioTherm: Simulating Ambient Temperatures and Wind Conditions in VR Environments. US Provisional Patent No. 62/408,319.
- [3] Ranasinghe, N., Jain, P., Karwita, S., Tolley, D., Chew, B., Bansal, A., & Do, E. Y. L. 2017. Interface For Information Exchange And Communication Between And Among The Sensory Disabled And Non-Disabled Individuals. SG Non-Provisional Application No. 10201703584W.

## Selected Press Coverage

- 2017 Galileo TV (Germany), "Limonade per App: Mit diesem geraet kannst du geschmack verschicken"
- 2017 The Straits Times, "Multi-agency effort to boost use of artificial intelligence"
- 2017 Today, "\$150m kitty to use AI to tackle variety of issues"
- 2017 Reuters, "Singapore researchers turn water into 'virtual lemonade' but is it tart enough?"
- 2017 Today, "NUS researchers invent way to 'teleport' drinks over the Internet"
- 2017 New Scientist, "Virtual lemonade sends colour and taste to a glass of water"
- 2017 BBC, "Sipping on virtual lemonade, has the future arrived?"
- 2017 The Straits Times, "Singapore researchers turn water into 'lemonade'"
- 2017 Science Magazine, "Are we about to start sharing taste through the internet?"
- 2017 Fox News, "Scientists demonstrated how you can send lemonade over the internet"
- 2017 Engadget, "You can share the taste of lemonade through the internet"
- 2017 Channel NewsAsia, "Singapore researchers turn water into 'virtual lemonade'"
- 2017 ACM TechNews, "Virtual Lemonade Sends Color and Taste to a Glass of Water"

2017 Futurism, "Now, You Can Send Lemonade Over the Internet"  
2017 CNET, "Singapore scientists teleport lemonade over the internet"  
2017 The Straits Times, "NUS's smart utensils that can mimic flavour among innovations at One North fest"  
2017 New Scientist, "Virtual reality weather add-ons let you feel the sun and wind"  
2017 Futurism, "Now You Can Feel Wind and Temperature While in Virtual Reality"  
2016 Futurism, "Now You Can Taste And Chew In Virtual Reality"  
2016 New Scientist, "Face electrodes let you taste and chew in virtual reality"  
2016 Discovery/Seeker/Science Channel, "Sweet! Virtual Food Has Real Taste Now"

## **Service**

2017 ACM SIGCHI Student Representative – 50<sup>th</sup> Celebrations of the A. M. Turing Awards  
2017 ACM Multimedia Program Committee  
2017 ACM CHI Student Volunteer

## **Reviewer**

ACM MM 2017, UIST 2017, CHI 2017, TEI 2017, MVAR 2016, AltMM 2016  
IEEE WHC 2017  
MDPI Sensors

## **Demos** (presented to/at)

Philips, Hitachi, Ferrero, Fraser and Neave, Thomson Reuters, CNET, Today, Mr. Teo Chee Hean – Deputy Prime Minister (Singapore), Dr. Yaacob Ibrahim – Minister for Communications and Information (Singapore), Mr. Taizo Son – GungHo Gaming, Prof. Tan Chorh Chuan – President (National University of Singapore), UIST 2016, TEI 2017, Innovfest Unbound 2017.

2014 MIT Manipal Curriculum Conclave – Student Representative for Biomedical Engineering  
2012 Category Head – Graphics & Web Design for Techtatva, MIT Manipal's National Level Tech Fest  
2011 - 13 Creative Head & Board Member – Biomedical Engineering Society of India, Manipal Chapter

## **Relevant Skills**

### **Hardware & Fabrication**

Hardware I/O, Embedded Systems, Signal Processing & PCB design.

### **Software**

Eagle, SolidWorks, µVision, ArduinoIDE, Processing, MATLAB, Tracker, Unity, Photoshop & Unity.

### **Languages**

C, C++, Java & HTML/CSS.

### **User-Centered Design**

Story Board, Survey Design, Usability Testing, Wire framing & Rapid prototyping.

## **References**

Ellen Yi-Luen Do  
Professor, ATLAS Institute, University of Colorado Boulder

Yen Ching Chiuan  
Associate Professor, School of Design, National University of Singapore

Nimesha Ranasinghe

Research Fellow, Keio-NUS CUTE Center

Yeow Chen Hua, Raye

Assistant Professor, Department of Biomedical Engineering, National University of Singapore

Ramesh Galigekere

Professor & Head of Department, Biomedical Engineering, Manipal Institute of Technology