

SURYATAPA ROY

MSc. in Computer Engineering
Research Assistant
Software Developer

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PROFILE

Driven and efficient research assistant working on Machine Learning (ML) and Virtual Reality (VR). Proficient in designing algorithms and developing applications on several platforms. Proactive team player with 5+ years of professional experience in software development. Curious, creative and believes in continuous learning and innovation.

EDUCATION

MSc. in Elect. & Computer Engineering, Uni. of Calgary; CGPA: 3.925/4; 2016-July,2017

- Developed Bodhi-FPA: An intelligent user-adaptive VR application for interactive analytics.
- Developed novel automated machine learning techniques for scientific data processing.
- Completed Courses: Virtual Reality, Haptic Interaction, Automated Software Engineering, Machine Learning, Human Computer Interaction (HCI) & Information Visualization.
- Published research papers in IEEE SMC'2017, IEEE CSCWD'2018.

BEng. in Electrical & Electronics Engineering, MSRIT, India; CGPA: 9.34/10; 2010-2014

- Developed application for data collection & management in Smart Grids using Local Area Networks and published research paper in IEEE ICPACE'15.

EXPERIENCE

Graduate Research & Teaching Assistant, University of Calgary 2016 - July,2017

- Designed and developed an architecture for a VR environment.
- Optimized computational resources of VR environment using parallel / GPU computing.
- Evaluated performance of VR environment by conducting user studies.
- Assisted courses on programming with Java, C/C ++ and Signal Processing.

Unity3D Instructor, Circuit Stream, Calgary, Canada (Part-time) Jan, 2018 - Current

- Instructed clients on how to develop games and VR applications using Unity 3D.
- Developed Mixed Reality applications for HoloLens and Windows Mixed Reality headset.
- Developed Augmented Reality applications using ARCore and Vuforia.

Technology Coach, University of Calgary, Canada (Part-time) 2017 - Mar, 2018

- Developed 360 Media Content & VR mobile applications using Unity, Maya and Photoshop.

Software Developer, HP Enterprise, Bangalore, India 2014 - 2016

- Developed a C#, .Net based web application for Vodafone, UK in a team of 12 developers.
- Developed a CRM based application for Westpac, Australia in a team of 8 developers.
- Developed a Java based application for Vodafone, UK in a team of 5.
- Automated Build & Deployment while managing the development environment.
- Performed delivery correspondence with clients following the Agile Delivery Model.

Engineering Intern, ITIE Knowledge Solutions, Bangalore, India 2012 - 2013

- Developed application for EEG & ECG signal processing using MATLAB.

Skills

Programming

- C, C++, C#, .Net
- Design Patterns
- Python, R
- Java, HTML, CSS
- JavaScript, SQL

VR / AR / 3DTech.

- Unity3D, Maya
- OpenGL, Glew, SDL
- Open Haptics
- ARCore, Tango
- Android SDK
- DayDream, VIVE

Machine Learning

- Neural Networks
- Deep Learning
- Language Processing
- Scikit-learn, SciPy
- Tensor Flow
- Hadoop, Spark
- Google Cloud APIs
- MATLAB

Computing

- CPU/ GPU processing
- OpenCL, OpenCV
- Nvidia CUDA, PyCuda
- Numba, Dask



CERTIFICATIONS / CORPORATE TRAINING

- Data Engineering on Google Cloud Platform Specialization**, GoogleCloud @coursera.org **Ongoing**
- Ethical Conduct for Research Involving Humans (TCPS 2)**, Ethics Board (CFREB), Canada **2017**
- Unity Game Development Specialization**, University of Colorado @ coursera.org **2017**
Capstone Project – Multiplayer game development for VR platforms.
- Machine Learning Specialization**, University of Washington @ coursera.org **2016**
Capstone Project – Recommender system for a retail website.
- Oracle Web Center Portals and Sites Administration**, HP Enterprise Training Program **2015**
- Agile Software Development Methodology**, HP Enterprise Training Program **2015**
- Microsoft CRM Development and Customization**, HP Enterprise Training Program **2014**



PUBLICATIONS

- “An End-to-End Human-Centered Automation for Knowledge Discovery in Collaborative Analysis” **2018**
- “A Collaboration between Visual and Automated Analyses of Complex Flow Patterns” **2018**
- “Towards a Virtual Environment for Interactive Analysis of Cluster-Based Flow Pattern Abstraction” **2017**
- “Advanced Metering Infrastructure for real time load management in a smart grid” **2015**



PUBLIC SPEAKING / KNOWLEDGE TRANSFER

Conducted Workshops and Information Sessions

- Invited Speaker: "Introduction to Virtual Reality" @ Chic Geek and BeakerHead MeetNTech **2017**
- Conducted Workshop on "Getting Started in VR" @ BeakerHead Campus Collision **2017**

Presented Projects and Research Findings

- “Technology for Wildlife Protection”, project presentation at HP Social Innovation Challenge **2015**
- “Smart Grids”, project presentation at MSRIT Engineering Exhibition, India **2014**
- “Smart Homes”, exhibition at Royal MSRIT Society of Electrical Engineers' Value Forum, India **2013**
- “Sustainable Energy Social Innovation Challenge”, presentation at SELCO, India **2012**
- “Speech Processing”, project at Texas Instruments & Gill Instruments Workshop, India **2012**



LEADERSHIP POSITIONS / VOLUNTEERING

Management Roles – Organized and managed resources for conferences & charity events

- Volunteer at IEEE ICASSP, Calgary, Canada **2018**
- Volunteer at IEEE IAS ESTMP, Calgary, Canada **2018**
- Volunteer at Alberta Eco Trust Foundation, Calgary, Canada **2018**
- Organizer of Mass Food Collection Drives for Flood Victims, Hewlett Packard GD India **2015**
- Organizer of National Conference on Micro and Nano Technology, India **2013**
- Volunteer at National Conference on Advances in Power Electronics, India **2013**
- Volunteer at National Conference on Renewable Energy Management, India **2012**
- Volunteer at Blood Donation Camps, Indian Nation Service Scheme **2010 – 2011**

Mentorship Roles – Aid for student learning in engineering education

- Technology Mentor for Chic Geek Mentorship Program, Calgary, Canada **2018**
- Student Mentor at CDIO Academy held at University of Calgary, Canada **2017**
- International Student Mentor at the University of Calgary Student Services, Canada **2017**
- Student Mentor at Explore IT Electronic Gizmo Session, Canada **2017**
- Student Mentor at Women in Engineering Day, Canada **2017**

Social Service – Managed a handicapped rehabilitation center

- Volunteer at Society for Rehabilitation Services India (S.C.R.S) **2009 – 2010**

HCI

- Tobii Eye Tracking
- Statistical Analysis

DevOps

- Linux Environments
- Git
- Apache SVN
- Jenkins
- Oracle WCP Servers
- Oracle WCS Servers
- Solr Servers
- Zookeeper Servers
- Docker, Vagrant
- Agile Development

Research

- Algorithmic Thinking
- Problem Solving
- Data Analysis
- Literature Survey
- Peer Assessment

Additional Skills

- Studying Patents
- Design Documents
- Microsoft CRM
- Adobe Photoshop
- Autodesk CAD