

# Prasanna Natarajan

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Research, Design, Develop.

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## EDUCATION

University of Southern California

Los Angeles, CA

Master's in computer science

January 2019 – December 2020 (anticipated)

Course Work: CSCI 570 - Analysis of Algorithms, CSCI 585 – Database Systems

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## WORK EXPERIENCE

**Dell International Services | India | Software Engineer – 1 | Node.js, MongoDB, MySQL** July 2018 – December 2018

• Improved page performance for [dell.com/support](http://dell.com/support) website by reducing number of network calls by running a JavaScript function to add location details (lwp) in all links that does not have lwp already.

**Dell EMC | India | Intern | Cordova, Node.js, MySQL, bash, Vue.js**

January 2018 - May 2018

• Succeeded in Creating a portal for mobile application development (Android/iOS). A tool for Dell teams to design, build and deploy mobile applications in Dell internal app store, reducing dependency on mobility team, increasing productivity.

**Shiv Nadar University | Research Assistant | Python, Android, Java**

October 2016 - May 2018

• Developed an Earthquake Early Warning System (SNU EEWS). The Android application streams data to a central server where a consensus mechanism works to decide to give an alert for an earthquake or not.

• Designed and coded a NN for detecting p-wave from phone's accelerometer readings to enable the consensus mechanism.

• Research was presented (poster) in "International conference of Sustainable Infrastructure, New York | October 26-28, 2017".

**Shiv Nadar University | Research Assistant | Verilog, Python**

May 2016 - December 2016

• Designed and Implemented a pipelined processor, to compare performance between a single bus, pipelined processor (flushed in FPGA) and a pipelined simulator. Results and simulator were used as a teaching material in Digital Electronics.

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## PROJECTS

**Symphonia - Sync your music**

Java | Android | SQLite

*Description:* Created a synchronous music player. Loudness of a device's speaker may not be enough for music lovers.

Although the combined volume that can be obtained on all the devices available is adequate for their needs, this is under-utilized due to a lack of the ability to play music synchronously across all devices.

*My Contribution:* Developed an android application for playing music synchronously across devices. Also designed a custom peer to peer network protocol for doing the same.

**Internet TV/radio - a university wide multicast**

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*Description:* Built an Internet TV/radio application which uses any source multicast (ASM). The project's first part involves socket programming and the next part on making a GUI for a player. Used cvlc/ffplay for playing a stream of multimedia.

*My Contribution:* Implemented the part that involves serializing and sending multimedia streams.

**CatNap - Sleep Analyzer**

Arduino | C++ | Python

*Description:* Created a sleep analyzer (to create better sleeping habits). It monitors disturbances in light and sound while one is sleeping and provides relevant information. When sound increases, system's volume of white noise also increases aiding in one's sleep as validated by many research communities.

*My Contribution:* Wrote Arduino code for reading sensor values (LDR and Sound Sensor). Wrote a python script for plotting received data from sensors in real time.

**SNU-Dashboard**

Angular.js | MongoDB | node.js (NodeBB)

*Description:* Developed an online portal where users can know all the happenings around Shiv Nadar University. Club activities to cab pool and lost and found all at this one place.

*My Contribution:* Set up and hosted Mongo DB database instance for forums. Configured NodeBB forum for dashboard. Helped develop frontend of website with AngularJS.

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## SKILLS

**Languages:** Python, Java, HTML, CSS, MySQL, JavaScript, jQuery, MongoDB, PHP

**Frameworks:** Cordova, Android Development, ASP.NET MVC, Node.js, Flask, Django, Vue.js, AngularJS

**Tools:** Jupyter Notebook, Git, Android Studio, Visual Studio, MySQL Workbench, Anaconda

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## ACCOMPLISHMENTS

• Led a team to become **winners in "Dell Innovation Rally: Tech Carnival"**: An AI/ML hackathon for all Dell Employees

• Secured **runners up position in "The Dorm Room"**: A hackathon for Dell interns.

• Undergraduate (B.Tech): Graduated with **"High Distinction"**.