

SHASHANK MUCHELI

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PROFESSIONAL INTERESTS

Algorithms, web programming, parallel and distributed systems.

EDUCATION

University of Massachusetts Dartmouth (in progress, currently enrolled)

Masters, Computer and Information Science. **GPA: 3.4**

Parallel and Distributed Systems, Theoretical computer science, Advanced algorithms and complexity, Advanced computer systems, Artificial Intelligence, Large software systems, Paradigmatic software development, Gamification in Bioinformatics.

Bangalore University, India (May - 2012)

Bachelors, Computer Applications. **GPA: 3.5** (Interpreted by World Education Services)

WORK EXPERIENCE

University of Massachusetts Dartmouth (Graduate Research Assistant: June 2014 – Present)

Principal Investigator: Dr. Firas Khatib (Dept. of Computer and Information Science)

- **Slipknot detection algorithm:** Improved the knot detection algorithm, **Knotfind**, to find **slipknots** in proteins, which are not mathematical knots as the knotted chain doubles back on itself. We came up with an algorithm to detect slipknots (**Java**) in protein chains and visualize them (Scripted using **PyMol's Python API** and **JSMol's JS Library**).
- **Foldit** (<http://fold.it/>): Modified **introductory** game levels which are programmed using **C++** and **Python** in the popular protein folding game **Foldit**.
- **Foldit website development environment:** Worked on Amazon **EC2** instance to set up a **lighttpd** server to deploy development version of the Foldit's massive website.

Wisely Online Services Pvt. Ltd (Application Developer: Sept 2013 – Jan 2014)

- **Engagewise:** Developed and tested a next generation advertising website using **OO** strategies, **Facebook** API, **Infusionsoft** API and integrated **PayPal** to cater the advertisers with **lead** count, **graphs**, schedulers, reminders etc.
- **ManlyDeck:** Analyzed and developed a completely **Model-View-Controller** based website using **CodeIgniter** to cater online orders and table booking for the restaurant and integrated **PayPal** to process online payments with a hierarchy of **UI's**.
- **Aptitude Tester:** Developed a completely **object oriented** testing website using **PHP** which analyzed the scores and dynamically generated custom score cards for each student.
- **Personality Smart:** Implemented a mindset prediction **algorithm** in **PHP** using **CodeIgniter** based on a series of questions.

Direct-I Internet Solutions Pvt. Ltd. (Web Solutions Specialist: May 2012 – Feb 2013)

- Managed the web space on **Linux** and **Windows** servers and troubleshooting complaints.
- Administered web space by creating, modifying, moving and organizing the data of clients.
- Performed domain management and setup mail servers by adding appropriate **DNS** records.
- Trained on **sandbox servers** with jailed logins to administer everything via command line.

TECHNICAL SKILLS

- **Programming:** Java, C++, C programming, PHP, JavaScript, Shell, Python.
- **Tools and services:** MySQL, Git, SVN, Netbeans, PyMol Python API, JSMol API, AWS (Amazon web services), Apache, Lighttpd, Wordpress, Drupal, Facebook API, Infusionsoft API, PayPal, CodeIgniter.
- **Platforms:** Linux, Windows.

PROJECTS

Coursework

- Heuristic Search Algorithms: designed and developed TSP with three **heuristic search** algorithms **A star**, **Anytime A star** and **SMA star** search strategies using Java for Artificial Intelligence course. (CIS 561)
- Course Paper on “Predicting the future with Social Media” about **sentiment analysis** and **feature extraction**. It included example about a movie based on its popularity on the social media. (CIS 561)
- Shell: developed and mini-shell using **execvp** in C. It bundled most of the terminal functions with **pipes** and **redirects** as well. (CIS 570)
- File transfer tool: Developed a tool to make reliable copies of a file on another machine using **UDP/IP** protocol. Code was written in C. (CIS 570)
- Implemented Distributed Systems using **RPC's** and **CORBA**: Developed an Internet Chat system using RPC's. The system enabled exchanging text messages, client registrations and was implemented using **Java**, **CORBA** and **C++**. (CIS 570)
- Documented the entire process of building and compiling Foldit on a local machine and helped a batch of forty students to setup the development environment for the Protein folding game locally which is **six hour** process for each user. (CIS 602)
- Developed a platform using **PHP** and **jQuery** for recruiters to conduct tests for a variety of students based on the job role for the final semester undergraduate project. (May 2012)

Personal Interest

- Represented the college to the NAAC committee as freshmen and played a crucial role in acquiring the prestigious accreditation.
- Winner of intercollegiate IT quiz in my sophomore year.

REFERENCES

Dr. Firas Khatib	UMass Dartmouth	Professor	fkhatib@umassd.edu
Dr. Haiping Xu	UMass Dartmouth	Professor	hxu@umassd.edu
Dr. Shelley Zhang	UMass Dartmouth	Professor	shelley.zhang@umassd.edu