

Abhijeet ANAND

B.Tech, M.CS

PERSONAL DATA

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PERSONAL STATEMENT

More than 3 years of experience in *design and development of software for financial markets*. Also has experience with *financial data provider APIs* (such as Thomson Reuters) and incorporating such data in high-frequency financial platforms. Extensive experience in working closely with research teams, with more than 8 years of experience in *building research and teaching software*. Over 5 years of *teaching experience* in variety of courses from 1st year to 3rd year in the areas of *Artificial Intelligence, Discrete Mathematics* and theoretical *Computer Science*.

Through volunteer work, also has considerable experience in various software development languages and tools necessary for Rapid Application Development (RAD) of desktop and web-based applications. See [Software Projects](#) for details on such software development.

WORK EXPERIENCE

<i>Current</i> JAN 2019	Research Assistant BMM LAB , University of Melbourne Development and maintenance of software to support interdisciplinary research into the behaviour of human decision-makers in the face of uncertainty and complexity, possibly interacting manually or with computer agents through financial markets. Build scripts to automate collection, filtering and analysis of data collected as part of the research.
<i>Current</i> JUL 2016	Freelance Software Developer <i>Sole Trader</i> , DARKFISH TECH , Melbourne Development of customised software tools and applications for the education industry, specifically for use in research, teaching and learning environments. Most projects involve development of custom desktop and web applications that can be used to teach and assess student learning abilities and/or enhance productivity in class. See Software Projects for details.
<i>Jan 2019</i> JUN 2018	Technical Support & Experiment Game Developer <i>Casual Research Assistant</i> , BMM LAB , University of Melbourne Development of customised software tools and applications for running experiments in financial markets and decision making areas. Provide technical support to the members of this lab and develop scripts to automate ancillary research tasks. See Software Projects for details.
<i>Dec 2018</i> JUN 2018	Casual Lecturer for Computing Theory <i>Computer Science and IT</i> , School of Science , RMIT UNIVERSITY, Melbourne Development and delivery of course material to students and managing other tutors to deliver such materials in tutorials and labs. Prepare and conduct lectures on topics in computing theory, such as complexity, computability, language formalisms, state-machines/automata theory, etc.
MAY 2018 JUN 2011	Tutor for Computing Theory and Artificial Intelligence <i>Computer Science and IT</i> , RMIT UNIVERSITY, Melbourne Deliver course materials (<i>e.g. tutorial sheets, assignment materials and solutions</i>) during tutorials in a concise, interesting and informative manner while providing assistance to students and head tutors. In addition to the above mentioned activities, also assist lecturer in developing assignment material, marking support and coordinating with other tutors.

JUL 2015 NOV 2011	<p>Coordinating Instructor for OUA Introduction to IT <i>Computer Science and IT</i>, RMIT UNIVERSITY, Melbourne</p> <p>Delivery of course material to Open Universities Australia (OUA) online learning students via interactive online chat sessions, preparation of assignments, exams and tests.</p>
JUL-OCT 2011	<p>Head Tutor and Lab Assistant for Introduction to IT <i>Computer Science and IT</i>, RMIT UNIVERSITY, Melbourne</p> <p>Liaise with lecturer and/or course manager along with tutors and lab assistants regularly to plan all tutorial and practical lab sessions.</p>
FEB-JUN 2011	<p>Tutor and Lab Assistant for Java for C Programmers <i>Computer Science and IT</i>, RMIT UNIVERSITY, Melbourne</p> <p>Deliver course materials (<i>e.g. tutorial sheets, assignment materials and solutions</i>) during tutorials in a concise, interesting and informative manner while providing assistance as required.</p>
NOV-DEC 2010	<p>School Project 2010 <i>Computer Science and IT</i>, RMIT UNIVERSITY, Melbourne</p> <p>Worked on a software project entitled “Developing a multi-agent system for the International Multi-Agent Contest”, managing the entire software life-cycle. JACK programming language was used, which follows the Belief-Desire-Intention (BDI) model of agency.</p>

COMPUTER SKILLS

Basic:	PHP, Access, ASP, C, C++
Intermediate:	LINUX/UNIX, Ubuntu, MySQL, JavaScript, HTML, C#, \LaTeX
Advanced:	Java and Spring Framework, Ruby and Ruby-on-Rails, Python with Django NumPy & SciPy, JACK [®] BDI Programming Language

EDUCATION

AUGUST 2011	<p>Master of Computer Science, RMIT University, Melbourne H1 Level Equivalent Thesis Major: Intelligent Systems Minor Thesis: “Path Planning in Agents with Incomplete Information in Dynamic Environments” Adviser: Dr. Sebastian SARDINA GPA: 2.5/4 Examiner’s Note: “<i>In my opinion the quality of the thesis indicates that the student would be an excellent candidate for future PhD study</i>” Dr. Carlos Hernández ULLOA, Universidad Católica de la Santísima Concepción, Chile.</p>
JUNE 2008	<p>Bachelor of Technology in BIOINFORMATICS 74/100, Jaypee University of Information Technology, Solan, India Thesis: “Study of Molecular Basis of Drug Resistance in Malaria” Adviser: Dr. Chetan Dutta PODURI GPA: 6.8/10</p>

SOFTWARE PROJECTS

- FLEXBOTS** Python based Framework for Automated Algorithmic Trading
<http://alghost.bmmlab.org/>
Tools and Languages: Python and Django, Javascript, CSS, HTML
Project Owners: [BMM LAB](#)
Team Size: 2
This framework is a two part tool. First part is a Python based framework that allows connecting to [Flex-e-Markets](#) trading platform in order to perform algorithmic trading. The second part of this tool is a web-based application that allows running trading robots developed using FlexBots.
- X-APPS PERSISTENCE API** A RESTful data persistence API
Tools and Languages: Ruby, Ruby-on-Rails, HTML, Javascript
Project Owners: [BMM LAB](#)
Team Size: 1
This is a Ruby-on-Rails based application presenting a RESTful JSON API for storing and fetching game data for a research oriented game software called X-Apps
- SIMEX** Financial Trading Simulation Platform for Students and Academics
<http://simex-if.darkfish.com.au/>
Tools and Languages: Java Spring Boot, Spring Security, Javascript, CSS, HTML, .NET
Project Owners: 1
Team Size: 2
This trading simulation platform has been developed for School of Economics, Finance and Marketing, College of Business at RMIT UNIVERSITY. This platform fetches real-time data from an actual financial market, however, has the security of trading in virtual currency. This allows students to learn academic concepts using real data.
- LANDAUCTIONS** A custom tool for understanding human behaviour in land auctions
Tools and Languages: Java Spring Boot, Spring Security, Javascript, CSS, HTML
Project Owners: 1
Team Size: 2
This web application was developed for School of Finance, Melbourne University for experimental economics research. It was used to study human behaviour in land auctions.
- QTTWITTER** An Open Source Project based on Qt (Open Source Edition)
<http://code.google.com/p/qttwitter/>
Tools and Languages: Qt Creator/Designer, Qt 4.4.3, Paint.NET
Project Owners: 2
Team Size: 3
It is a cross-platform twitter client based on the Qt-C++ Framework, using the TwitLib wrapper around the Twitter API, and GUI via Qt. Features of viewing all the twitter time-lines in their respective spaces and able to login and send tweets. More features added gradually while stabilizing the general running of the application. The GUI can be given the native look-and-feel of the OS platform its running on, or a customized theme.
- CAMPUS CONNECT** Project in J2EE and J2SE
Tools and Languages: JSP, Applets, SWING toolkit, MS Access
Team Size: 2
Created a website using Java Server Pages and Applets using the SWING toolkit to provide the GUI. The website required the users to register first and then they can use the same username to login to the website and join a chat room where they can chat to multiple people. The messages were stored in a database using MS Access as a backend.

BLOGSPHERE	Project in Scripting Languages <i>Tools and Languages:</i> HTML, JavaScript and MD5 Hash Algorithm (for password encryption), ASP (Server side scripting) and Microsoft Access(Database). <i>Team Size:</i> 2 Developed a website using HTML, JavaScript, MD5 Hash Algorithm for encryption, ASP for server side scripting and Microsoft Access as a backend database. The website was developed as a blog space where users can create their login and write their blogs in their space. The blogs can be read by any other user registered to the website by filling a simple registration form.
GENETIC MARKERS DATABASE FOR COMMON DISEASES	Project in BDBMS <i>Tools and Languages:</i> ASP(Server side scripting), MS Access(database), HTML, JavaScript <i>Team Size:</i> 2 Developed a website using ASP and MS Access for the Genetic Markers. The users could enter a keyword to search for any marker sequence, or enter a part of the sequence to see whether it belongs to any marker or alternatively search for genetic markers responsible for a particular disease and run a search for a new sequence.
DICTIONARY USING A 26-ARY TREE	Project in C <i>Tools and Languages:</i> Data Structures in C <i>Team Size:</i> 1 Developed a dictionary using 26-ary tree. Each node stores the index of the word till that level. The dictionary is initialized by breaking the words into letters and storing them sequentially into the nodes. At the end of the word an index is assigned to the node corresponding to the last letter. While retrieving the word, the word is broken into letters and the tree is traversed depth-wise till the corresponding node for the last letter is reached, and then checking for existence of an index value. If index exists the word meaning is retrieved from a regular file with the file-name as index number.
AIRWAYS RESERVATION SYSTEM	Project in UNIX - Shell Scripting <i>Tools and Languages:</i> SUN Solaris platform, UNIX Shell script <i>Team Size:</i> 2 Developed a file based system comprising of shell scripts to reserve an air ticket for a passenger for his desired flight and source and destination for a particular date. The scripts checked for the availability of flights for the source and destination pair, and then checked for seat availability on the specified date in the specified class. Finally on confirmation generated a ticket with a ticket number.

AWARDS AND CERTIFICATES

2010 **Highly Commended** Community Leadership Award at RMIT Student Life Awards 2010

LANGUAGES

HINDI: Intermediate User and Native Speaker
ENGLISH: Expert User (IELTS Band: 8.5/9) and Native Speaker
POLISH: Beginner Level 1

INTERESTS AND ACTIVITIES

Technology, Open-Source, Programming, BDI Agent Programming and Reasoning
Automated Planning, Decision Making, Psychoanalysis, Psychology, Algorithmic Financial Trading
Cycling, Running, Swimming, Rock Climbing, Caving