

Sandeep Jain

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SUMMARY

Creative computer scientist with degrees in **Physics, Engineering and Applied Science**, and **Computer Science** from **top American universities**. Background in developing mobile applications for the **iOS platform** and in developing **Java based applications**. Expertise in **UML** based object oriented modeling and design. Experience and expertise in **Neural Network** based pattern recognition and signal classification applications. Currently working as the **CEO** of **Tuitsoft**, a company dedicated to teaching mathematical problem solving skills to students. Want to define my future career as a technical professional in the **Machine Learning/Deep Learning/Neural Network** space.

EDUCATION

Master of Computer Science (1999)

University of Illinois at Urbana-Champaign, Urbana-Champaign, Illinois, USA

BS, Engineering and Applied Science (1991)

Focus Area: Computation and Neural Systems
California Institute of Technology, Pasadena, California, USA

BA, Physics (1991)

(Joint Dual-Degree with the California Institute of Technology)
Pomona College, Claremont, California, USA

PROFESSIONAL EXPERIENCE

Founder & Chief Executive Officer • Tuitsoft, Noida, India • 2017 - now

Tuitsoft is a web based software service that simulates an intelligent tutor in teaching mathematical problem solving skills to school going students. The software engages the student in an interactive dialogue that walks the student from the problem statement to the solution of the problem.

Chief Technology Officer • Banyan Logic, Noida, India & Virginia, USA • 2014 – 2017

Banyan Logic offered consulting services for the implementation of Customer Relationship Management (CRM) products. My role was to take responsibility for the company's deliverables.

Independent Software Consultant, Noida, India • 2001 – 2014

Projects include:

- **iPhone Application Lead Developer** for Tech urSelf
Worked remotely (from India) with Tech urSelf, a California based company, developing for the iOS platform. Their flagship product, urWell, offered a platform for people to track their wellness over time.
Technology: iOS, Xcode, Objective-C.
- **iPhone Application Owner/Developer**
Developed an iOS Application, "Planet Laws - Know Your Solar System". The app (among other things) solves the differential equations of gravitation, and shows the simulated path of a sample planet around the Sun. The app is built on the Core Animation technology of the iOS platform.
Technology: iOS, Xcode, Objective-C, Core Animation.
- **Java Web Application Team Lead** for Agilent Technologies
Led a team of developers to migrate Agilent's BroadVision based content management system for its website to a Java (J2EE) based web application.

Technology: Java, JSP, Struts, iBatis data access framework.

- **Senior Software Architect** for client side software at ACL Wireless (now ACL Mobile)
Hired developers and led them in creating a high quality client side instant messaging platform.
Technology: Visual C++, J2ME (Java 2 Micro Edition), cellphone (SIM cards), Pocket PC SDK, XML.

Technical Lead • TechSpan (now Genpact), Noida, India • 1999 – 2001

Worked on a number of projects. Some samples:

- **COM2Java Migration Tool** for Sun Microsystems
Created a Java based compiler to compile Microsoft COM files into Java interface declarations.
Technology: Java AWT, java cc (Java Compiler-Compiler), COM, MIDL.
- **TeleMail**, a tool to access email via telephone
Led an R&D group to develop an innovative product to convert email text into a telephone-accessible interface. Originated the concept and co-developed the product.
Technology: Visual C++, Microsoft Text-to-Speech engine, Microsoft Telephony API.

Tutor • New Delhi, India • 1994 – 1998

Tutored students in mathematics, science, and computer science - in my locality (1994 – 1995), and at the American Embassy School in New Delhi (1995 – 1997). I also gave training in software engineering and programming languages to prospective software professionals (1997 – 1998).

Software Engineer • California Scientific • Nevada City, CA, USA • 1991 – 1994

Developed neural network pattern recognition software, and implemented pattern recognition solutions for companies. Came up with an innovative way to classify medical signals using back-propagation perceptron neural networks using signal structure or morphology. Was on an internationally constituted editorial board for the “Handbook of Neural Computation”, a publication jointly published by Oxford University Press and the Philadelphia based Institute of Physics.

Technology: C++ for the DOS/Windows 3.1 platforms, BrainMaker Neural Network Simulation Product.

Research Assistant • Pine Lab, California Institute of Technology, Pasadena, CA, USA • 1990 – 1991

Built an electronic interface between live biological neurons in a silicon array, and a lab computer.

Summer Undergraduate Research Fellow • Jet Propulsion Lab • Pasadena, CA, USA • Summer, 1989

Participated in an experimental project to bring the technology of JPL (the space exploration laboratory owned by NASA and managed by Caltech) to the automobile industry.

COMPUTATIONAL SKILLS

Languages: Java, Python, Objective-C, C/C++, SQL, XML, HTML, Javascript
Frameworks: Struts, MyBatis, Servlets, JSP, J2EE / Java EE, iOS Frameworks
Tools: Tomcat, Eclipse, Xcode, Rational Rose, Subversion, Git
Databases: MySQL, Oracle
Machine Learning: Multi-Layer Perceptron and other Neural Networks, Back-Propagation Learning Algorithm - Theory and Applications
Other: User interaction design, UML based design, Database modeling, Project Management, Cloud technologies

AWARDS and HONORS

Recipient of an undergraduate scholarship awarded for a BA-BS joint dual-degree program at Pomona College and the California Institute of Technology, respectively.

Awarded the Tileston Physics Prize at Pomona College - Award Criteria: The junior year student majoring in physics whose record is considered the most promising.