# Jacob Kalakal Joseph

Artificial Intelligence, Machine Learning, Data Science, Game Theory,
Python, Git, Automation, Information Retrieval and Web Search Engines,
Software Architecture and Design, Product Development, Project Management

## Education

**University of Southern California** Los Angeles, USA
Master of Science in Computer Science Jan 2011 – Dec 2012

**Courses**: Artificial Intelligence, Software Multi-Agent Systems & Game Theory, Information Retrieval & Web Search Engines, Database Interoperability, Ontologies & Semantic Web, Geospatial Information Management & Spatial Databases, Analysis of Algorithms, Software Architectures, Web Technologies

**Select projects** (work samples available at jacobkjoseph.com)*:*

- Context Sensitive Lucene: context-sensitive search engine prototype using Apache Lucene (an open source information retrieval library) and Altervista Thesaurus (an ontology based web service)
- Image decryption employing Genetic Algorithm techniques and other strategies to navigate noisy input
- Master Mind: logical code breaker agent using Jess (a Java based rule engine)
- Security Games with Limited Surveillance (SGLS) - Game Theory model for computing optimal defender strategy with limited adversary surveillance
- Android App that track user's Facebook friends' location and timestamped trajectory on Google Maps
- Android App that retrieves local weather information from Weather.com and post on user's Facebook wall

**Uttar Pradesh Technical University** Lucknow, India
Bachelor of Technology in Computer Science and Engineering Jul 2003 – Jun 2007

**Select courses**: Algorithms, Data Structures, Operating Systems, Database Systems, Computer Networks, Software Architecture, Automata & Compiler Design, Computer Architecture, Computer Organization, Cryptography and Network Security, Computer Graphics, Advanced Mathematics

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## Experience

**Intel Corporation** (CCG - Client Computing Group) Folsom, USA
Software Engineer – Full Time Employee Jan 2013 – Present

- **Product Owner** of two internal web applications accessible to all Intel CCG employees. Built both from scratch. The first web-app tracks customer enablement activities across various Intel platforms, generates scores and indicators to track progress and evaluate program risks, collates customer design and schedule information to auto-generate visually appealing, ready to use, actionable reports. The second web-app analyzes historical internal and customer data to forecast future trends. Allows user to override default weights and simulate 'what-if' scenarios.
- **Software Design and Development**: Write code (*Python*), design APIs, draft user-interaction models, develop flowcharts and data flow diagrams, develop highly customizable role-based access management, design for scale to promote feature growth and expansion.
- **Project Management**: Interview and hire developers – mostly interns and consultants, keep deliverables and project execution on track, prioritize tasks, communicate risks and strategize creative solutions, roll-up executive reports, execute biweekly sprints (*GitLab*).
- **Customer Engagement**: Collate and define user requirements, conduct user training and live demos, document wiki, make and publish demo videos.
- **Collaboration**: Partner with cross-organizational, cross-geo Intel teams. Engage Intel's customers and partners – Microsoft, HP, Dell, Lenovo. Enabled *Microsoft Surface Studio* (all-in-one PC, Dec 2016), *HoloLens* (mixed reality smartglasses, Mar 2016), *Surface Hub* (interactive whiteboards, Jun 2015), *Surface 3* (2-in-1 detachable, May 2015).

**Intel Corporation** (MCG - Mobile and Communications Group) Folsom, USA
Software Engineer – Graduate Intern Jun 2012 – Dec 2012

- Developed an **Android App** for Fuel Gauge debugging on Intel Atom based tablets. Demonstrated the App during the *Software Professionals Conference (SWPC)* held at Intel, Folsom in 2012.
- Developed **Python scripts to automate testing** of Intel-Windows devices – file transfer, video and music playback.
- Built a **Lego Mindstorms NXT 2.0 based prototype robot** that holds and manipulates (up, down, left, right, front, back) a stylus kept over a tablet to perform automated Touchscreen sensor stress-and-stability tests.
- Built an **ArbotiX RoboController based prototype robot** that holds and moves (rotate, tilt) a tablet to perform automated Accelerometer and Gyroscope sensor stress-and-stability tests.

**Infosys Limited** Nov 2007 – Dec 2010

- Software Engineer Consultant at **Intel Corporation** Bangalore, India
  NTG - Netbook and Tablet Group Sep 2010 – Dec 2010

- Software Engineer Consultant at **Microsoft Corporation** Hyderabad, India
  Microsoft Windows Embedded Compact Sep 2009 – Aug 2010

- Software Engineer Consultant at **Microsoft Corporation** Hyderabad, India
  Microsoft Deployment Toolkit Apr 2008 – Aug 2009

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