

# Mantosh Kumar

Hamilton – Ontario – Canada

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## Summary

Software Developer (Computer Science, M.Sc.) with over 8 years of experience in multiple phases of software development lifecycle. Strong competence in C, Python, Django, System design and Back-end development.

**GitHub Profile:** <https://github.com/mantoshkumar1>

## Professional Experience

### KI labs

**Munich, Germany**

*Backend Software Engineer*

*May 2018–Nov 2019 (1 year 6 months)*

- Built the MVP (Minimum Viable Product) version of B2B chemical e-commerce platform - First of its kind in European chemical digital marketplace.
- Designed and developed server-side RESTful services and API using Django implementation.
- Designed databases and table structures following n-tier architecture methodology for web applications.
- Collaborated with front-end engineers to see the project through, from conception to completion and integrated user-facing elements developed by front-end developers with server-side logic.
- Worked closely with product managers and business partners to understand software requirements.
- Developed unit test framework to test the internal structure of the application and ensure application quality.
- Converted manual test cases to automated end-to-end flow functionalities.
- Website: <https://chemondis.com/marketplace/>
- Technologies: Python, Django, PostgreSQL, RESTful, Cypress

### Siemens AG

**Munich, Germany**

*Research and Development Intern*

*Feb 2017–Sept 2017 (7 months)*

- Designed an intent-based RESTful control interface and real-time intent monitoring system for multi-tenant SDN and NFV based industrial network.
- Built a proof of concept for the realization of intent specification and intent monitoring models for real-time sensitive applications.
- Website: [www.virtuwind.eu](http://www.virtuwind.eu)
- Technologies: Java, Python, RESTCONF, SDN, Mininet, Yang, Maven, OSGi

### Intel Corporation

**Munich, Germany**

*Protocol Stack Engineer (Part-time)*

*Feb 2015–Feb 2017 (2 years)*

- Worked on Radio Resource Control development activities for Intel proprietary platforms, including design implementation and host-based testing to enhance Intel modem XMM 7360.
- Produced functional specifications for the PS module of Intel modem (XMM 7360) and consolidated 3GPP specifications with Intel's own internal requirements into software implementation.
- Produced Matlab resources to visualize Intel modem (XMM 7360) performance metrics and identify gaps for improvement using OTA (Over The Air) message traces.
- Developed modules of ENAS messages and UICC commands/files for Intel proprietary decoder.
- Worked on development of the initial version of unit-level test automation framework for UICC decoder module.
- Constantly communicated with users of Intel proprietary decoder and took note of requirements and features that can be added to the system.
- Fully automated the tasks of project content control and propagation status monitoring within the team.
- Languages: C++, Matlab, Python

**Cisco Systems****Bangalore, India***LTE Engineer**Jan 2012–Sept 2014 (2 years 8 months)*

- Designed and developed a validation and deployment tool for ASR 5X00 Cisco Packet Core products.
- Developed a scalable functional *Packet Core Network Simulation Environment* for 2G/3G/LTE/Wi-Fi and EHRPD network elements adhering to 3GPP specifications. Simulated GnGP, S1U, S3 and S4 interfaces.
- Worked on simulation of various mobile networking protocols such as PMIPv6, GTP, RANAP, NAS and S1AP.
- Worked on previously existing bottlenecks of the system and significantly decreased system initialization time.
- Conducted walk-through, requirements gathering meetings and worked with the stakeholders to ensure the right solution and provided comprehensive support to end-users and stakeholders through training and documentation.
- Technologies: Python, Wireshark

**Aricent Group****Bangalore, India***Software Engineer**Jan 2011–Jan 2012 (1 year)*

- Developed a *Location-Enabled Social Network Prototype Application* for Mobile World Congress 2012.
- Developed detailed use cases and process flow diagrams to support functional specifications and integrated Facebook and location-based services on Web2.0 framework.
- Technologies: Java, HTML, CSS, JBPM, XML, JSON, JDBC, MySQL

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**Education**

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**Technical University of Munich****Munich, Germany***M.Sc. in Computer Science (2.4/5, Best: 1)**Oct 2014–Oct 2017***West Bengal University of Technology****Kolkata, India***Bachelors in Computer Science (7.7/10, Best: 10)**July 2006–June 2010*

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**Technical Skills**

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**Programming:** C, C++, Java, Python, Matlab, Yang, Bash**Software Skills:** Flask, Django, SQL, PostgreSQL, RESTful**Tools:** Git, UML, Maven, Wireshark, LaTeX, Cypress**Platform/API:** Linux, SuperMUC, Repast HPC**Profiling:** Valgrind, Gprof, Perf, PAPI, VTune Amplifier XE, Scalasca

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**Awards and Recognition**

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- **Heroes of Tomorrow Award (Intel Corporation), January — December 2016:** Awarded twice for outstanding contribution to PS module of Intel XMM 7360 modem.
- **Graduate Aptitude Test in Engineering (GATE) - Computer Science:** An all-India examination organized by the IISC and IITs on behalf of Government of India.
  - **GATE 2013:** Among the top **0.87%** (Out of 224160 applicants)
  - **GATE 2012:** Among the top **0.76%** (Out of 156780 applicants)

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**Languages**

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English, Hindi, Bhojpuri