

# HEMANT PUTHRAN

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## Carrer Interests

GoLang  
Embedded C  
ARM, RTOS  
Control Systems  
Firmware development

## Education

Master of Technology  
IIT-Bombay  
Control and Computing  
Dept. of Electrical Engg.  
July 2011 - July 2014  
GPA: 8.04

Bachelor of Technology  
NIT-Nagpur  
Electrical Engineering  
July 2006 - May 2010  
GPA: 6.61

HSC - Maharashtra  
2006  
76.67%

SSC - Maharashtra  
2004  
87.46%

## Tools/Skills

Languages  
C, Go, Javascript, PHP  
Frameworks  
ReactJS(16.2.0)  
React-Redux, ReactPHP  
WordPress  
Utilities  
Git, L<sup>A</sup>T<sub>E</sub>X, Webpack  
Technologies  
Web-Sockets  
XMPP Protocol

## Experience

**Freelance** : March 17 - present : **Mumbai**

**Lead Developer** : **Asterisk Telephony Dashboard**

- Solution provided for dashboard(ReactJS) and backend(ReactPHP)
- Filtering and publishing of Asterisk events generated by AMI and ARI to dashboard
- Event driven non-blocking I/O minimal webserver hosting the client and providing config and logging utility for admin
- Complete functionality out of file folder, facilitating easy non technical onsite installation of application, bash scripting to automatically revive application incase of crash

**E2 Infosystems Private Limited** : Oct. 15 - March 17 : **Chennai**

**Lead Developer** : **Application Redesign and Rewrite**

- Restructure and Redesign with emphasis on separation of concerns, reusability, maintainence, feature extensibility of Java based hybrid web app on iOS
- Feature development in Javascript and native iOS, leveraging each's strengths for robustness and flexibility
- Designed primitive protocol and workflow for communication and synchronisation between the iOS logic layer and webapp interface
- Replaced various Java templating frameworks with ReactJS
- Enhanced development workflow and optimal production build generation using Webpack

**Lead Developer** : **Web App**

- Sole developer for client(AngularJS) and backend(Laravel)
- Chat feature over web-sockets leveraging XMPP protocol on OpenFire
- Implemented JWT(JSON Web Tokens) for verifying requests, maintaining user state and progress towards stateless backend
- Built engine to generate SOAP requests, regex XML and parse to JSON

**Lead Developer** : **WordPress App**

- Plugin and Theme Development to manage website data
- Developed rudimentary console to dynamically customize page layout and content, tightly integrated with WordPress API's and inbuilt functionality
- Effective solution by facilitating easy maintainence of more than 1200 existing webpages

**Accelya Kale Solutions** : **iOS Developer** : June 14 - Oct. 15 : **Mumbai**

- Functional enhancements and fixes to Finesse MBS, Audit MIS and iBrochures

**IIT-Bombay** : **Research Assistant** : July 11 - June 14 : **Mumbai**

- Designed new experiments and Lab incharge for Masters and Bachelors courses
- Taught and implemented control algorithms using Matlab, DAQ cards and Arduino

**Enercon India Limited** : **Field Engineer** : June 2010 - 11 : **Saundatti, Karnataka**

- Electrical Supervisor designing connecting grid layout, coordinating installation of electric equipment, quality inspection and commissioning of windturbines

## Projects

**Masters Thesis** : **Polynomial matrix nullspace computation**

- Implemented BlockQR and SVD on GPU using OpenCL and clAMDBLAS
- Block Toeplitz solution implemented in Scilab and in Python using Scipy and improved upon using Row Update QR

**R & D project** : **Embedded Autonomous Quad-Copter Testbed**

- Independently designed and built a Single Axis Test Platform and Thrust Measuring Stand to engineer the quad-copter and test Control algorithms
- Augmented ESC operation resulting in increased operating frequency and improved granularity in BLDC speed control

## Publication

Forming Behavior of thin foils, p.p. 493-498, 2013, Zurich, Switzerland  
**International Deep Drawing Research Group Conference**  
Hemant Puthran, Sanket V. Joshi, K. Narasimhan