

# Adith J Bloor

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## EDUCATION

### WASHINGTON UNIVERSITY

#### MENG IN ROBOTICS

Grad. Dec 2017 | St. Louis, MO

Cum. GPA: 3.7/4.0

### PURDUE UNIVERSITY

#### BS IN MECHANICAL ENGINEERING

Grad. May 2016 | West Lafayette, IN

Dean's List | Semester Honors

### JIAO TONG UNIVERSITY

Spring 2015 | Shanghai, China

Engineering Term Abroad | Travel Chair

## LINKS

Github:// [ajbloor](#)

LinkedIn:// [/in/adith-jb](#)

## SKILLS

### PROGRAMMING

Proficient:

Python • MATLAB • Arduino • Linux

LaTeX • Sphinx • HTML5 • Java

Familiar:

ROS • Keras • C • C++ • GCP • AWS

### CAD AND SIMULATION

Proficient:

Onshape • LabVIEW • Simulink • CATIA

Fusion360 • Solidworks • Blender

Familiar:

Inventor • Creo • Gazebo

### LANGUAGES

Proficient:

English • Hindi • Kannada • Tulu

Familiar:

Mandarin • Spanish

## COURSEWORK

### GRADUATE

Introduction to Artificial Intelligence

Introduction to Machine Learning

Random Processes and Kalman Filtering

Robotics Dynamics and Control | Lab

Wireless Sensor Networks

### UNDERGRADUATE

Automatic Control Systems

Bio Inspired Robotics

Human Motion Kinetics

Machine Design

## RESEARCH AND EXPERIENCE

### OPCODER AI | SOFTWARE DEVELOPER

March 2018 – Current | St. Louis, MO

- Utilized Natural Language Processing (NLP) algorithms to improve hospital billing processing speed by ten times
- Developed front-end UI to serve as a supplement to hospital human coders and an auditing tool for hospital administrators
- Secured funding of USD 7,500 by placing 2nd at the Discovery Competition at Washington University in St. Louis.

### WASHINGTON UNIVERSITY PEDS LAB | GRADUATE RESEARCHER

Aug 2016 – Current | St. Louis, MO

- Using Reinforcement Learning on autonomous driving simulators to optimize power and performance models
- Created PiCar: a lab scale, open-source, autonomous vehicle platform for economical, flexible and scale-able driver-less car research using Raspberry Pi.
- Lead team of 6 undergraduate researchers to use PiCar platform for studying and optimizing power management with reinforcement learning
- Mechanical design in-charge: designed and 3D printed chassis parts to accommodate sensors and electronics with DFMA standards
- Primary maintainer of PiCar GitHub repository and documentation using Sphinx to make it more reproducible
- Set up Picar network architecture between Raspberry Pi's and university network to facilitate convenient access and allow easier data transfer

### PURDUE M2M LAB | UNDERGRAD RESEARCHER

Jun 2014 – Dec 2014 | West Lafayette, IN

- Worked with large team to develop HARMS (Humans, Agents, Robots, Machines, Sensors) protocol for integrating UGVs and humanoid robots to aid in fire rescue scenarios, and published a paper for ICARA 2015.
- Programmed and calibrated Darwin-OP humanoid robots' locomotion gaits to allow navigation to the fire source and to enable fire suppression.
- Designed and 3D printed parts of Darwin-OP frame to decrease chassis cost.

### PACKT PUBLISHING | AUTHOR OF 'ARDUINO BY EXAMPLE'

Jan 2015 – Sep 2015 | ISBN: 178528908X

- Wrote project based-book on Arduino micro-controller on home automation, smart security, robotics, speech recognition and Internet of Things.
- Created an economical speech controlled quadropod robot project made of ice-cream sticks capable of walking, using BitVoicer speech-to-text interface.
- Collaborated with technical reviewers, editors, and marketing teams to meet quality requirements and strict deadlines.

### WASHINGTON UNIVERSITY CAPITAL PROJECTS | TECH SUPPORT

Sep 2017 – Dec 2017 | St. Louis, MO

- Assisted IT department to migrate computers of administrators and medical staff to compatible operating systems in lieu of EPIC software upgrade.
- Used customer service and trouble shooting skills to fix end user issues on-site, and submitted unresolved issues to management and engineering teams.

### YOJAKA PVT. LTD. | MECHANICAL ENGINEERING INTERN

May 2014 – Jun 2014 | Mangalore, India

- Assisted in repairing engines, and learned about hydraulics systems in dredgers.
- Served as communication liaison between management and engineering teams.

## AWARDS

2018	OpCoder AI	Second   Discovery Competition   Washington University   NLP in Healthcare
2017	PiCar Project	Top 10   Silk Road Robotics Innovation Competition   Xi'an, China   Bio-inspired
2015	Project GreenLight	Top 5   BoilerMake Hackathon   Purdue University   Social Engineering
2014	Speech Controlled Quadropod	First   Micro-controllers Contest   Instructables   Robotics

## PROJECTS

2018	Aircrash Visualization	Kaggle   Big Data   Data Visualization   Natural Language Processing
2018	Multi-robot Ping Pong	Personal   Swarm Robotics   Planning   Controls   MATLAB   Robotarium
2018	Humanoid CAD Model	Personal   CAD   Simulation   Rigging   Motion Capture Animation   Blender
2017	OBD-II Vehicle Diagnostics	Course   Vehicle CAN Interface   Amazon AWS   Real-time Data   Raspberry Pi
2017	Three Link Planar Robot	Course   Simulation   Robot Kinematics & Dynamics   Physics Engine   MathWorks
2016	Martian Solar Panel Cleaner	Course   Green Energy   Shape Memory Alloy   Rapid Prototyping   Mechanical
2015	Project GreenLight	Hackathon   Social Engineering   Circuit Design   Buttons & LEDs UI   Arduino
2014	Speech Controlled Quadropod	Personal   Legged Servo Control   Speech Recognition   Bluetooth   Arduino
2011	Wall-E Prototype	Personal   Obstacle Avoidance   Wheeled Robot   Autonomous   Picaxe

## ORGANIZATIONS

2016	3D Printing Lab	Volunteer   Helped students create CAD models and 3D print parts   Purdue University
2013	Winterization	Volunteer   Readied homes of senior citizens for winter   Lafayette, IN
2013	EPICS	Member   Built Mars Curiosity replica and terrain enclosure for local museum   Purdue University
2012	FIRST	Mentor   Helped FRC Team 461 build a basketball throwing robot   Lafayette, IN

## INTERESTS

- Chess | Won international tournaments held at Greece, Georgia, India and Singapore
- Travel | Explored China, Georgia, Greece, Hong Kong, India, Indonesia, Macao, Malaysia, Thailand, Turkey, Singapore, Sri Lanka, USA, and Vienna

## PUBLICATIONS

- Bloor A.J., Wagoner A. and Matson E.T., Humanoid Robots Rescuing Humans and Extinguishing Fires for Cooperative Fire Security System using HARMS. International Conference on Automation, Robotics and Applications (ICARA), 2015. Reference: <http://ieeexplore.ieee.org/abstract/document/7081183/>
- Bloor A.J. (2015) Arduino by Example. PACKT Publishing. Reference: <https://www.packtpub.com/hardware-and-creative/arduino-example>