Gaurav Dixit

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Education

Master's Student in CS
2018 – Present
Expected Graduation June, 2020

Oregon State University, Corvallis OR 97331
Advised by Kagan Tumer. Researching methods for learning cooperative and competitive strategies in heterogenous multiagent systems

Bachelor of Engineering in CS
2012 – 2016

Pune Institute of Computer Technology, Pune IN 411043
3.83 GPA

Experience

Collaborative Robotics and Intelligent Systems Institute Corvallis, OR
Graduate Research Assistant November 2018 – Present

- Researching methods for **reinforcement learning**, **Bayesian inference** and modeling in tightly coupled multiagent domains

Ubisoft Entertainment Pune, IN
Programmer August 2016 – June 2018

- Implemented new in-game content and improved the engine to bring down the crash ratio by upto 75%. The title has 10 million+ users on Android and IOS
- Designed and implemented an interactive focus framework in **C++** which conforms to the html user interaction standard, for keyboard, controller and remote support. It is used in production for microconsoles
- Developed a physics based web game in **TypeScript**, **Node.js** and **AWS**. Implemented trained agents using policy gradients and NEAT. I was the only programmer in the team until after it was successfully soft-launched

BMC Software Pune, IN
Software Development Research Intern August 2015 – August 2016

- Developed an event analysis tool for root cause analysis, mining event associations, in **Java** using a variation of the Rete algorithm for real-time analysis of network events. It is internally used by the BNA team extensively
- Implemented a **RNN** in **Python** and **TensorFlow**, which predicted potential network failures ahead of time

Pune Institute of Computer Technology Pune, IN
Undergraduate Research Assistant August 2015 – August 2016

- Researched methods to collect data and perform Named-Entity Recognition for Hindi and its dialects. Advised by Mukta Takalikar
- Independent Research - Designed methods to combine Deep Q-learning with Neuroevolution techniques to improve learning time for environments with sparse rewards and dense states

TA: Programming Paradigms and Generics with C/C++ (fall 15), **Data Structures and Algorithms** (fall 14), Operating System Administration (Spring 14), Object Oriented Programming (fall 13)

Projects

- **Rendering Engine** - Designed and implemented a **WebGL** rendering engine using TypeScript that focuses on speed and cross browser support. Used by a title in production at Ubisoft
- **Image Orientation Predictor** - Implemented a deep convolutional neural network in C++ that predicts the correct orientation of an image. Achieved an accuracy of 98.7% on mnist and 91.8% on ImageNet
- **App Development** - Developed several mobile apps for **BlackBerry 10**, **QNX** and MeeGo in **Qt** that focus on useability and productivity. Apps use various machine learning techniques to solve real world problems and have more than 500k+ users combined: https://gaurav-dixitv.github.io/apps/
- **Open source contributions**: Stellarium, Phaser