700, Health Sciences Drive,
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Prerna kothari

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Education

Stony Brook University — Stony Brook, NY
M.S. Mechanical Engineering), GPA 3.88 — *Jan. 2018 – Present*

- **Relevent Coursework :** Artificial Intelligence, Machine Learning, Robotics, Geometric Modeling, Product Design Optimization, Mathematics
- Developing a cloud based Machine Design Software, under the guidance of Dr. Purwar; funded by $ 'X' NSF grant.

Experience

Stony Brook University — Stony Brook, NY
Research Assistant — *Dec 2018 – Present*

- Developing a web based platform for linkage design; A react-redux application is developed for simulating planar closed loop linkages
  url: https://prernakothari.github.io/motiongen-react/
- Using React-Native for cross-platform mobile version of the application.

Oracle — Pune, India
Associate Consultant — *Aug 2015 – Dec 2017*

- Customization and Implementation of Banking Products in the Internet Banking and mobile-based browser domain
- Understanding banking processes and Implementation/Development to translate business needs into software.

Teaching Assistant - MEC101 (Mechanical Design Innovation), MEC 262 Engineering Dynamics

- Involved in creating assignment, exams and conducting recitation sessions for 200+ students in each course.

Skills

- **Languages :** Proficient in Javascript, Java, Python, MATLAB, HTML5, CSS. Familiar with C++
- **Tools & Technologies :** Tensorflow, React, Redux, FC@ (Flexcube Direct Banking), XSL, XML, J2EE, JBoss, EAP.

Relevant Projects

Deep Recurrent Attentive Writer (DRAW) VAE — MEC 634 Machine Learning, Prof. N Chakraborty
Tensorflow — *Jan 2018 – May 2018*

- Implemented DRAW Variational Auto Encoder for Sequential Generation of Images; Neural Networks with Attention Mechanism
- Implemented in Tensorflow; Trained on MNIST, CIFAR Datasets; Reproduced the results presented in the google brain paper

Deep Reinforcement Learning for Continuous Control Tasks — CSE 537 AI, Prof. N Balasubramanian
Tensorflow, OpenAI-Gym https://github.com/deshpandeshrinath/deepDGP — *Jan 2018 – May 2018*

- Implemented Deep DPG algorithm to learn continuous control policies; Compatible with all OpenAI-Gym environments.
- Implemented Hindsight Experience Replay for learning goal-oriented tasks with sparse binary rewards.

Motion Planning of Baxter Arm — MEC529 Robotics, Prof. N. Chakraborty
MATLAB — *March 2016 – May 2016*

- Computed smooth B-Spline motion for pushing. Computed Jacobian matrix; Applied approximate Inverse Position Kinematics
- Obtained joint angles and rates for the task. Performed simulations to validate the results.

Interactive Manipulation of NURBS Surfaces — MEC572 Geomtric Modelling, Prof. Anurag Purwar
C++, OpenGL — *March 2016 – May 2016*

- QT5, OpenGL based implementation in C++ for interactive manipulation of Non Uniform Rational B-Spline Surfaces.