Alexy Skoutnev

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Education

University of Texas *Austin, Texas*

Bachelor of Science in Mathematics and Mechanical Engineering *Exp. May 2022*

- Computational Science and Engineering Certificate
- Elements of Computing Certificate

Experience

Oden Institute for Computational Engineering and Sciences *Austin, Texas*

Intern *May 2021 - Present*

- Develop and compile high-performance computing software
- Perform test simulations via parallel computing on a supercomputer architecture
- Research parallel algorithms for large scale computational problems

Robot Perception and Learning Lab *Austin, Texas*

Research Assistant *January 2021 - Present*

- Research on robot perception, embodied agents, and intelligent algorithms
- Develop control and learning framework for mobile robots
- Design and train robotic agents

Direct Reading Program *Austin, Texas*

Independent Project *August 2020 - December 2020*

- Researched a statistical learning project with a graduate student mentor
- Developed supervised machine learning algorithms on R
- Created an algorithm to detect spam email using support vector machine

Electronic and Magnetic Materials Research Group *Austin, Texas*

Undergraduate Researcher *January 2019 - May 2019*

- Researched superconductors and epitaxial oxide interfaces
- Worked with nuclear magnetic resonance force microscopy to study spin dynamics in micro samples

Projects

Parallel Scaling Performance of MOOSE on TACC *Summer 2021*

C++/C

- Numerically approximate heat conduction within mesh geometries using finite element principles
- Execute performance tests utilizing parallel computing on Frontera
- Model the weak and strong scaleability of MOOSE from performance data

Perceptive Locomotion *Spring-Fall 2021*

Python

- Develop a Kinova Gen3 Modular Arm controller for operational space control
- Utilize PyBullet and iGibson simulation environments to test mobile robot
- Train embodied agent through reinforced learning and imitation learning

Skills

Programming Python, C/C++, Shell Script, JavaScript, MATLAB, PHP, R, LaTex, HTML/CSS
Frameworks PyTorch, OpenCV, MOOSE, MongoDB, PostgreSQL, Pandas, Neo4j, PyBullet, iGibson, MPICH
Languages English, Russian

Honors & Awards

2021 **Frank McBee Scholarship**, Cockrell School of Engineering Merit Scholarship
2019 **Thomas and Elizabeth Merner Scholarship**, College of Natural Science Merit Scholarship
2018 **Hagg Family Scholarship**, High School Varsity Track Academic Scholarship
2018 **Assistance League Scholarship**, Scholarship for achieving academic scholar in Conroe area