Gaurav Manek

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PhD in Artificial Intelligence

School of Computer Science
Carnegie-Mellon University

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Visigoth Scheduler

Scheduling software company
that uses AI to optimize schedules

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Sc.B. Computer Science

magna cum laude
Honors in Computer Science
Brown University '16

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A*STAR
NSS-BS Scholarship

Recipient of the National Science
Scholarship (NSS)

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SKILLS

DEEP LEARNING
Building models and validating them experimentally. Designing and testing novel Deep Learning techniques.

SOFTWARE DEVELOPMENT
Writing software for real-world use, working on every part of a full-stack SaaS product.

DEVOPS
Automating continuous delivery of code and ML models. Managing server clusters for research and production.

ROBOTICS
Autonomous drones to industrial manufacturing, developing custom hardware and software solutions.

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About Me

I design and build advanced robotics and AI solutions for real-world problems with a focus on the biomedical industry. I have experience in building and deploying production-grade software, and have worked on a variety of problems in robotics, scheduling, and logistics.

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Education

Ph.D. Computer Science   **2023**
Carnegie-Mellon University, School of Computer Science
Completed a Ph.D. on Artifical Intelligence, advised by Prof. J. Zico Kolter. My thesis was on stable offline reinforcement learning.

Sc.B. Computer Science   **2016**
Brown University
Completed a four-year Bachelor of Science degree in three years, graduating *magna cum laude* with Honors in Computer Science.

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Work

Research Scientist   **2023 – NOW**
*Institute for Molecular and Cell Biology, A*STAR*
Working on AI and robotics for biomedical imaging applications.

Founder, Developer   **2018 – 2023**
Visigoth Scheduler
Invented a novel AI technique for optimizing schedules, and built a SaaS product around it. Developed the entire software stack, and is currently in use by a dozen clients.

Research Officer   **2016 – 2017**
*Institute for Infocomm Research, A*STAR*
Worked in the Data Analytics group and Deep Learning 2.0 group. Performed research on GANs and semi-supervised learning, and neural network pruning.

Research Assistant   **2014 – 2016**
Humans to Robots Lab, Brown University
Research with Dr. Stefanie Tellex, eventually writing my honors thesis on parsing prepositional statements incrementally.

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Publications

[3] Manek, G., Kolter, J. Z. (2022). *The Pitfalls of Regularization in Off-Policy TD Learning.* Poster presented at NeurIPS 2022, New Orleans, LA.

[2] Manek, G., Kolter, J. Z. (2019). *Learning Stable Deep Dynamics Models.* Poster presented at NeurIPS 2019, Vancouver, BC.

[1] Kuan, K., Manek, G., Jie, L., Chandrasekhar, V., Yuan, F., Tan, C. (2017). *Region Average Pooling for Context-aware Object Detection.* Published in ICIP 2017, Beijing, China.

[0] Manek, G., Tellex, S. (2016, May). *Incrementally Identifying Objects from Referring Expressions using Spatial Object Models.* Poster presented at the 2nd Workshop on Model Learning for Human-Robot Communication (Robotics: Science and Systems 2016), Ann Arbor, Michigan.