

# Yubai Di

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## EDUCATION

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**University of California, San Diego**

*M.S in Computer Science, GPA: 3.6*

2018 - Present

Expected Graduation Year: 2019

**Pomona College**

*Bachelor of Arts in Mathematics and Computer Science, GPA: 3.57*

2012 - 2016

## RESEARCH EXPERIENCE

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**Latent-space Motion Planning**

*Advanced Robotics and Control Lab, UC San Diego*

2018 -

- Built a MLDP model for predicting if a robot configuration is in collision-free or in-collision space;
- Working on devising dimensionality-reduction methods for planning on high DOF robots, e.g Baxter;

**Intrinsically Strong Linking in Complete Graphs**

*Pomona College Mathematics Department*

2015 - 2016

- Built a package in Java that computes the linking number of all pairs of cycle given an spatial embedding;
- Reconstructed the problem of finding minimal strongly-linked complete graph into an optimization problem;

## INDUSTRY EXPERIENCE

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**Amazon Lab126**

*Software Engineer*

July 2017 - June 2018

- Delivered the geolocation-triggered routine feature on Alexa devices;
- Built the backend service for storing and querying dynamic geolocation of GPS and Alexa-enabled devices;
- Designed and implemented GDPR rules for Alexa Location Services;

**Amazon Web Services**

*Software Engineer*

October 2016 - July 2017

- Maintained a system that traverses daily the keymap of AWS Simple Storage System (S3), which stores trillions of object keys and serving millions of request per second;
- Delivered the prefix-filtering feature for inventorying objects in S3;

**Amazon Web Services**

*Software Engineer Intern*

Summer 2015

- Designed and built an in-production user-interface for a system traversing daily the Keymap of AWS Simple Storage Systems (S3);

## HONORS AND GRANTS

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Park City Mathematics Institute Undergraduate Summer School, NSF

Summer 2016

The Summer Undergraduate Research Program, Pomona College

Summer 2014

Pomona College Scholar

2012-2013

## TEACHING EXPERIENCE

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**Pomona College Quantitative Skills Center**

*Math Fellow*

2013-2014

- Tutored Linear Algebra and Real Analysis;
- Held the highest rate of hours being scheduled by students for the academic year (46 percent);

**Harvey Mudd College**

Fall 2015

*Tutor & Grader for CS151 Artificial Intelligence*

- Held weekly mentoring sessions to help students work on assignments and projects.

**SELECTED COURSEWORK**

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Graduate: Computer Vision, Machine Learning, Sensing & Estimation in Robotics, Planning & Learning in Robotics (IP)

Undergraduate: Monte Carlo Methods, Abstract Algebra, Real Analysis, Topology, Probability & Statistical Theory, Artificial Intelligence, Machine Learning, Autonomous Robot Navigation

**LANGUAGE AND TECHNOLOGIES**

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Programming Languages: Java, Python, Javascript, Ruby, Matlab, L<sup>A</sup>T<sub>E</sub>X;

ML and Robotics technologies: PyTorch, Tensorflow, SkLearn, ROS Kinetic, Rviz, Moveit!, OpenCV

Web technologies: AWS suite, Rails, JQuery, Bootstrap, Git, Docker;

Operating Systems: Unix, Linux