

# YIDONG ZHOU

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Education	<b>UNIVERSITY OF SCIENCE AND TECHNOLOGY OF CHINA (USTC)</b> <b>Candidate for B.S. in Statistics</b> <b>Cum. GPA: 3.74/4.3 (87.96/100); Major GPA: 4.04/4.3 (92.14/100)</b> <ul style="list-style-type: none"><li>• Sept 2017 – Jun 2018 GPA: <b>3.94/4.3 (90.65/100)</b></li><li>• 2016 Excellent Student Scholarship (<b>top 10%</b>)</li><li>• 2018 Excellent Student Scholarship (<b>top 10%</b>)</li><li>• Relevant Coursework: Bayesian Analysis (<b>99</b>), Regression Analysis (<b>90</b>), Complex Analysis (<b>90</b>), Real Analysis (<b>87</b>), Functional Analysis (<b>86</b>), Partial Differential Equations (<b>86</b>), Applied Stochastic Processes (<b>95</b>), Probability (<b>86</b>), Operations Research (<b>97</b>), Mathematical Statistics (<b>92</b>), Algebraic Structure (<b>91</b>), Applied Statistical Software (R &amp; Python) (<b>95</b>), Data Structures and Database (C &amp; SQL) (<b>91</b>), Computer Programming A (C programming language) (<b>88</b>), Introduce to Data Science (<b>A+</b>)</li></ul>	<b>HEFEI, CHINA</b> <i>Aug 2015 – Present</i>
Experience	<b>INTERIM ANALYSES USING MULTIVARIATE REPEATED CONFIDENCE BANDS (MRCBs)</b> <b>Research Assistant, supervised by Professor Rui Wang, Harvard University</b> <ul style="list-style-type: none"><li>• Implemented multivariate repeated confidence bands which accommodate multivariate response and multiple treatment arms under three settings (repeated measures responses, recurrent events, survival data)</li><li>• Derived the mean and covariance function of treatment difference and further proved the correctness of the result</li><li>• Utilized resampling algorithm to approximate critical values and thus computed the border of confidence bands</li><li>• Proposed an algorithm which can place confidence bands and confidence regions adaptively to visualize <b>MRCBs</b></li><li>• Completed research outline for next-phase work in extending <b>MRCBs</b> to a universal situation</li></ul>	<b>CAMBRIDGE, MA</b> <i>Sept 2018 – Present</i>
	<b>R PACKAGE DEVELOPMENT FOR RTREE, STREE, AND MASAL MODEL</b> <b>Research Assistant, supervised by Professor Heping Zhang, Yale University</b> <ul style="list-style-type: none"><li>• Constructed the <b>macs</b> package with <b>Rcpp</b>, including package architecture and late-stage testing &amp; refinement</li><li>• Integrated C/C++ into <b>R</b> to implement Classification Trees (<b>RTREE</b>), Survival Analysis Trees (<b>STREE</b>) and Multivariate Adaptive Splines for Analysis of Longitudinal Data (<b>MASAL</b>) model</li><li>• Programmed powerful functions in <b>R</b>, such as R interface function, <i>plot</i> function, <i>print</i> function, etc.</li><li>• Proposed an adaptive tree drawing algorithm which can calculate coordinates by recursive computation according to node distribution, and then arrange the position of each node in the plot</li></ul>	<b>NEW HAVEN, CT</b> <i>Jun 2018 – Sept 2018</i>
	<b>DATA ANALYSIS FOR INVENTORY MANAGEMENT</b> <b>Research Assistant, supervised by Professor Yugang Yu, University of Science and Technology of China</b> <ul style="list-style-type: none"><li>• Conducted case-driven survey of cross-border e-commerce to develop inventory management strategy</li><li>• Performed substantial cleaning of in-situ data from a top Amazon seller and fitted data in <b>R</b> and <b>Python</b></li><li>• Used machine learning models to improve stock tracking accuracy, anticipate sales and customer traffic to forecast stock requirements</li></ul>	<b>HEFEI, CHINA</b> <i>Dec 2017 - May 2018</i>
	<b>TEXT EMOTION ANALYSIS BASED ON THEME</b> <b>Research Assistant, Supervised by Professor Qi Liu, University of Science and Technology of China</b> <ul style="list-style-type: none"><li>• Preprocessed Taobao users' review data with the Chinese text segmentation package (<b>jieba</b>) in <b>Python</b></li><li>• Performed part-of-speech tagging, removed stop words and extracted text features based on the theme (price, express, etc.)</li><li>• Adopted the K-Nearest Neighbors (<b>KNN</b>) algorithm to classify the texts</li></ul>	<b>HEFEI, CHINA</b> <i>Sept 2017 - Dec 2017</i>
Manuscripts in Preparation	<b>Zhang, H., Zhou, Y., Ma, M., Lu, Y., &amp; Ma, H. (2018+). "Recursive Partitioning Based Multivariate Adaptive Regression Models, Classification Trees, and Survival Trees: The macs Package for R".</b>	
Teaching	<b>COMPUTER PROGRAMMING A (C PROGRAMMING LANGUAGE)</b> <b>Teaching Assistant, University of Science and Technology of China</b> <ul style="list-style-type: none"><li>• Lectured over <b>90</b> UTSC students on Q&amp;A sessions of <i>Computer Programming A</i> for four hours per week</li><li>• Managed lab guidance, graded student assignments and exams</li></ul>	<b>HEFEI, CHINA</b> <i>Sept 2017 – Jan 2018</i>
Leadership	<b>STUDENT UNION, MINISTER OF ACTIVITY</b> <b>Minister of Activity</b> <ul style="list-style-type: none"><li>• Led a team of <b>15</b> to draft policy memos, coordinated discussions, and finalize policy enactment</li><li>• Led the development and launch of a performance assessment system to improve operational excellence</li><li>• Chaired monthly meetings to collect feedback from student representatives to enhance the interaction between faculty and students</li></ul>	<b>HEFEI, CHINA</b> <i>Sept 2016 - Jun 2017</i>
	<b>FRESHMEN SEMINAR</b> <b>Research Team Leader</b> <ul style="list-style-type: none"><li>• Summarized literature related to research topics, established a mathematical model about predicting global climate</li><li>• Completed the essay and <b>oral defense</b> with teammates, got an A with the joint efforts of team members</li></ul>	<b>HEFEI, CHINA</b> <i>Sept 2015 - Jun 2016</i>
Skills	<b>STATISTICS &amp; COMPUTER</b> <ul style="list-style-type: none"><li>• Naive Bayesian Model, Decision Tree Model, Logistic Regression Model, Convolutional Neural Network, etc.</li><li>• C/C++, R, Python, LaTeX, HTML, CSS, JavaScript, MATLAB, Microsoft Office, PS, AE</li></ul> <b>ACTIVITIES</b> <ul style="list-style-type: none"><li>• CCF Big Data &amp; Computing Intelligence Contest (<b>top 10%</b>)</li><li>• National College Students Mathematical Modeling Competition (<b>top 10%</b>)</li><li>• Big Data Modeling Contest (<b>top 10%</b>)</li><li>• "Find the next madman" Competition (<b>top 10%</b>)</li></ul>	

