Yuwen Hu

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EDUCATION

School of Mechanical Engineering, Shanghai Jiao Tong University (SJTU), Shanghai 2016.9-2020.7(expected)

Bachelor of Engineering, Industrial Engineering and Management Science

- Major GPA:3.91/4.0 Rank:2/49; Overall GPA:3.87/4, Rank:6/49;
- Core Courses: Probability and Statistics (99); Linear Algebra (90); Operation Research (92); Mathematical Methods in Physics (92); Fuzzy Math (90); Production System Modeling and Simulation (96), Service Management (92), Ergonomics, Quality Management, Logistics and Supply Chain; Production Plan and Control, Management Information System.

Selected Awards: Academic Excellence Scholarship (2016-2017, 2017-2018,2018-2019 three consecutive years); Third Provincial Prize in CUMCM (China Undergraduate Mathematical Contest in Modeling);

Antai College of Economics & Management, SJTU 2017.9-2020.7(expected)

- Minor in International Economy and Trade; GPA:3.88/4.0
- Courses including Microeconomics (90), International Finance, Fundamentals of Management, Marketing, Accounting, International Economics Theory and Policy;

Summer Session D, University of California, Berkeley (UCB), CA 2018.7-2018.8

- Introduction to Finance; Short Course Topics.

RESEARCH EXPERIENCES

Degradation Signal Analysis and Residual-life Predictions Using BMA 2019.9-Present

*Advisor: **Dong Wang**, Associate Professor, Department of Industrial Engineering and Management, SJTU*

- Studied typical degradation process (storage capacity of batteries in accelerated charge cycle), applied weight average method and PCA in multi-sensor data fusion.
- Implemented Bayesian model average (BMA) to combine different exponential models which are had different types of errors (random errors or Brownian motion errors) to model the degradation process (referring to researches of *Nagi Gebraeel)*
- Generated residual-life distribution and realized real-time prognosis with updated parameters of posterior distribution.

Consumers Behaviors on an Online Auction Platforms 2019.7-Present

*Advisor: **Xinyu Cao** (Department of Marketing, NYU Stern School of Business); **T. Tony Ke** (Department of Marketing, MIT Sloan School of Management)*

- So far responsible for data collection, early-stage data cleaning and analysis (research details including project name and methodology are still not public now)
- Technical details covered crawling data using Scrapy, Selenium, Docker, EC2, SQL; Conducting data pre-processing and data visualization using Stata, R, and Python

Campus Takeaway Catering Delivery Network Simulation and Simplified DVRPTW Optimization 2018.12-2019.1

*Advisor: **Tangbin Xia**, Associate Professor, Department of Industrial Engineering and Management, SJTU*

- Studied and simulated a typical O2O take away delivery network (multi-restaurant to multi-destination) based on real-life location, distances data and stochastic demands with peak values; The impacts of weather, traffic jams, and traffic lights have on delivery speed or consumer demand is taken into consideration
- Clustered terminals into large regions by using K-means and DBSCAN jointly; Applied order-up-to-level and delay scheduling to reduce uncertainty in dynamic vehicle routing problem with time window (DVRPTW).
- Used GA solving models with multiple objectives, results significantly reduced restaurants' cost and improved customer satisfaction;

GOC (Global Optimization Challenge): Smart Inventory Control of Distribution Network with Replenishment and Stochastic Demand 2018.8-2018.9

*Advisor: **Lu Chen**, Associate Professor, Department of Industrial Engineering and Management, SJTU*

- Studied RDC-FDC (regional/front distribution center) serial inventory system under finite planning horizon and improve supply chain (SC) responsiveness with a minimum overall SC cost (our project paper and solution ranked 12th among 1810 undergraduate and graduate competitors).
- Creatively designed hybrid periodic-review policy by combining ABC inventory classification management (basing on cost of goodwill and backlog of different SKUs, and other data provided by JD.com), echelon-base-stock policy and newsboy model.
- Attained full charge of programming by comprehensively using libraries (Pandas, Matplotlib, Numpy) and optimizer (Gurobi) with Python; Also used Geatpy for genetic algorithms for further research.

Process Optimization and Management Information System Development of Lean Day Surgery   2017.9-2018.9

*Advisor: **Zhibin Jiang**, Professor, Department of Operation Management; Dean of Sino-US Logistics Research Institute; (Former head of Industrial Engineering and Management department, SJTU)*

- Investigated and standardized processes of day surgery in Ruijin Hospital, Shanghai with 5W1H and ECRS rules. Introduced value stream analysis (VSA) basing on historical data to quantify system and implemented association mining algorithms (Apriori, FB-growth) to find the bottleneck process and resource.
- Scheduled surgeries, staff and equipment using absolute robustness optimization with GA algorithm generating schedules and interior point method (IPM) searching worst operation durations.
- Responsible for customer demand survey, database design (DBD); Solved many technical challenges related to system logic design and software development; Developed a sophisticated and customized MIS for lean day surgery using Java, Netbeans, MySql, PHP and Apache (in application for software copyright).

PROFESSIONAL EXPERIENCES

Huawei Technologies CO., LTD   **Shenzhen, China**
Summer Intern, 5G Open Lab & Supply Chain Management Department   2019.8-2019.9

- Received professional training in establishing and managing simple 5G network elements. Studied fundamental principles of communication, communication protocols and infrastructures.
- Studied intelligent logistic and supporting algorithms behind; Monitored supply chain data, studied risk management and revenue management in supply chain;

LEADERSHIP & EXTRACULAR ACTIVITIES

Volunteer work

- Awarded outstanding volunteer of the 20th Anniversary Activities for Master of Engineering Education of SJTU
- Attained outstanding volunteer of Graduation Party of School of Mechanical Engineering
- Other school-level volunteer work, university-level volunteer work

ICA (SJTU International Communication Association): Minister of Brand Center   2017.2-2017.6

- Organized Weekend Excursion, Campus Culture Festival and Buddy Program to help form a better communication and understanding between Chinese students and exchange students from the United States, Germany, Pakistan etc.;

No. 800 Films Club: Minister of Liaison department   2017.9-2018.6

- Coordinated the organizing, planning and booking facilities for large-scale events such as open-air theaters, campus Oscar festivals, freshmen film festivals, etc.
- Maintained and fostered cooperation with other school associations and clubs; Drawing sponsorships from off-campus organizations such as Shanghai Times Cinema.

SKILLS & OTHERS

- Languages: English (TOEFL106, S25; UCB exchanging experience); Chinese (mother tongue)
- Computer skills: experienced in C^{++}, Python, Java, Matlab, R, Stata, SQL, Linux, HTML, Excel, Gurobi, Cplex, etc. Familiar with various algorithms, web development, web spider and data visualization, Docker and simulation.
- Skills: Basketball (Won 'Top SJTU 16 Teams' in Cadillac Campus Basketball Match), Guitar, Electric Guitar