

Post Doctoral Positions

Smart Sensor Fusion for Autonomous Systems
Shanghai Jiao Tong University, Shanghai, China

Contact: fusion@sjtu.edu.cn
University Page and Lab Page

Job Category

Post-doctoral Positions and Fellowships	4-8 candidates
Institution	Shanghai Jiao Tong University (SJTU)
School	Electronic Information and Electrical Engineering (SEIEE)
Department	Automation
Location	Minhang Campus, Shanghai, China
Application Deadline	Available Until Positions Filled

Job Announcement

The newly-established Smart Sensor Fusion for Autonomous Systems (SSF) research laboratory at the SEIEE of SJTU invites applications for post-doctoral research positions to work with the team consisting of Academician and IEEE Life Fellow/Senior Members. Successful candidates will carry out research topics/projects focusing on Cognitive Signal Processing, Sensor Fusion, Object Tracking, Localization/Mapping, Deep/Reinforcement Learning for various autonomous systems (such as Truck, Mining Truck, and Mobile EV Charger).

The SSF is a diverse and international research team, spanning across theoretical, numerical, and industrial frontiers with deep sensor fusion background. We focus on data platform, algorithms and real-time computing issues. We develop core functionalities of autonomous systems on *perception, prediction, planning and control*. We closely work with industrial partners and provide unique sensor fusion driven solutions for various autonomous vehicles/equipment. We also lead testing, verification, validation and standardization procedure for the autonomous systems with designated institutes in China and Europe. More information can be found at <http://fusion.sjtu.edu.cn/>.

The appointment is initially for 2 years, extendable by another year (with possible recommendation to faculty position). Salary depends on qualifications and experience, but will be competitive internationally. Applicants should submit a curriculum vitae and a brief research summary, and arrange three reference letters (optional but preferred) to be directly sent to: fusion@sjtu.edu.cn. Applications will be considered until the position is filled.

Apply to Job

please attention to: fusion@sjtu.edu.cn with job code in title

- **Job Code: PD_FUS** candidate is expected to have strong domain knowledge on Kalman filter (KF), unscented Kalman filter (UKF), particle filter (PF), interacting multiple model (IMM), extended object tracking, homogeneous/heterogeneous track/data fusion (T2TF), track/data association.
- **Job Code: PD_LOC** candidate is expected to have strong domain knowledge on the simultaneous localization and mapping (SLAM) problems and familiar with g2o, ORB SLAM, occupancy grid map, and statistical properties of different sensor systems (mainly IMU, Radar, Camera and Lidar systems).
- **Job Code: PD_PLN** candidate is expected to have strong domain knowledge on convex optimization, expectation-maximization (EM), pattern search, observability/estimability analysis, PIC, MPC, PLC and CAN, familiar with pathfinding algorithms, such as Dijkstra's algorithm, A-star search, and Swarm search.
- **Job Code: PD_DRL** candidate is expected to have strong domain knowledge on deep learning and/or reinforcement learning for autonomous driving applications, familiar with object detector, such as Yolo and PifPaf, and with know-how on building a sensor fusion data platform and labeling toolbox.
- **Job Code: PD_OPS** candidate is expected to have strong domain knowledge on fleet management and group formation, flocking, remote control and operation optimization in hybrid systems. Knowledge in industrial internet of things (IIoT) is a plus.