



## 2026 DSTG Industry Experience Placement Projects

### List of Abbreviations

Platforms Division	PLAT
Human and Decision Sciences Division	HADS
Aerospace / Aeronautical Engineering, Naval Architecture Stream	AAENA
Computer Sciences, IT, Software Engineering, Telecommunications Stream	CSITSET
Electronic / Electrical Engineering Stream	EEE
Materials Science Stream	MS
Mechanical and Mechatronic Engineering (including Robotics) Stream	MMER
Psychology and Social Sciences Stream	PSS

Project ID	Project Location	Project Title	Project description	Desirable Skills	AAENA	CSITSET	EEE	MP	MMER	PSS
IEP PLAT 01	Fishermans Bend, Victoria	Dynamic Modelling for Off-Road Ground Vehicles.	<p>The control of autonomous ground vehicles within an off-road environment poses many unanswered challenges and is a rich area for novel research. This work will provide an opportunity to work with the Ground Systems Autonomy capability within DSTG. Specifically, the placement will aim to develop a 6-DOF vehicle model for simulation and control of an Ackerman front-steered 4x4.</p> <p>The placement will provide opportunity to capture real-world data from field trials for model validation and to work alongside a larger team to create impact for Defence. The successful applicant will have a strong academic achievement in Control Systems and a secondary interest and ability to translate this into software languages including Python or C++.</p>	<ul style="list-style-type: none"><li>Dynamic modelling of systems using Octave or similar.</li><li>Experience with an imperative software language such as Python or C++.</li><li>A knowledge of or willingness to learn a physical platform and capture data from the field.</li><li>An ability to work with a team of scientists to achieve an impact</li></ul>	X	X	X	X	X	
IEP PLAT 02	Fishermans Bend, Victoria	Resilient Navigation for Teaming UAVs.	<p>The Aerial Systems Autonomy team is the lead for UAV research at DSTG. This includes an Applied Aerial Autonomy focus delivering resilient mission ready UAV platforms for Defence live field trials.</p> <p>Reliable position information is vital for UAVs to complete trusted autonomous missions. This project would explore alternative navigation techniques for UAVs in GPS degraded environments. In collaboration with our team of researchers, this may include applied projects such as testing the behaviours of UAV hardware in degraded environments and integrating navigational systems with our flight controllers. The project may also be tailored towards mathematical/programming skillsets to develop algorithms using on-board sensors to estimate position and developing multi-sensor fusion algorithms for reliable trusted position information. The work can be tested in simulation environments and also be tested in live flight trials locally on Defence test ranges with the support of the team.</p>	<ul style="list-style-type: none"><li>General knowledge of UAVs and autonomous systems.</li><li>Software Development Skills (Python).</li><li>Robotics and hardware integration</li><li>Ability to work in teams.</li><li>Willingness to participate in field or lab based flight trials.</li><li>Good verbal and writing skills.</li></ul>	X	X	X	X	X	
IEP PLAT 03	Fishermans Bend, Victoria	Advanced Propeller Modelling for Integrated Naval Ship Performance Modelling.	<p>Naval ships are highly complex systems where small changes can have a large effect on the overall design and performance. Integrated ship performance modelling links together a number of simulation tools to capture a wide range of performance measures. This then allows a holistic assessment of a ship design which can be used to support the development of platform requirements and to assist with design decisions.</p> <p>The Ship Systems Analysis (SSA) team at DSTG are developing an integrated ship performance modelling tool called InteShip, which is being used to support several Defence shipbuilding projects. It consists of a growing repository of models of ship performance metrics, including range endurance, stability, habitability propulsion systems and many more.</p> <p>This research will contribute to the development of InteShip by significantly improving the propeller modelling capability available to users. This will be achieved by developing code to integrate PROCAL, a boundary element momentum theory code for modelling propeller performance, into the InteShip model repository. The research will also include a validation study to ensure correct operation of the model and to determine the limits of accurate performance predictions. There is also the potential for a design space exploration study to assess the impact of propeller design on overall ship performance.</p>	<ul style="list-style-type: none"><li>Mathematical modelling of physical systems.</li><li>Naval architecture.</li><li>Numerical modelling.</li><li>Coding, particularly in python.</li><li>Ability to work independently and in small teams</li><li>Good communications skills.</li></ul>	X	X			X	
IEP HADS 01	Edinburgh, South Australia	Joint Operations Command Workplace Survey Development.	<p>DSTG conducts an annual workplace survey of Joint Operations Command (JOC), collecting psychometric data on a breadth of sociotechnical factors such as teamwork, leadership and agility. This survey project helps inform targeted workplace initiatives within JOC.</p> <p>There is flexibility in how students may support this project, which may be in one or more of the following ways:</p> <ul style="list-style-type: none"><li>Statistical Modelling</li><li>Scale development and validation</li><li>Literature review</li><li>Research paper writing</li></ul>	<ul style="list-style-type: none"><li>Statistics</li><li>Psychology theory, preferably organisational psychology</li><li>Strong communications skills</li></ul>						X