Grip

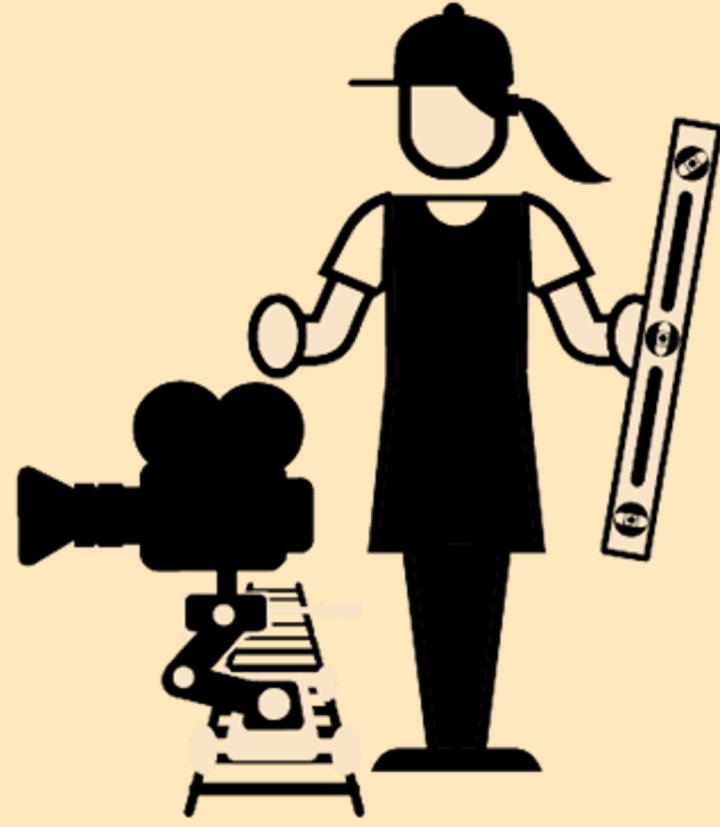## AI overview

AI is beginning to reshape the role of grips in film and television by enhancing efficiency and safety on set. AI-powered tools could assist grips with pre-vis, tech-vis, and simulating shooting conditions, helping to anticipate challenges before they arise. AI also has the potential to improve safety by using sensors to monitor camera movements and predict maintenance needs for equipment.

To prepare for the future, grips could focus on learning AI-driven tools and enhancing their technical skills to adapt to virtual production environments and automated systems. By staying informed about emerging AI technologies, grips could ensure they remain vital contributors to production workflows while refining their craft.

How can I prepare for the future?

As technologies develop, keeping up-to-date with the latest opportunities is important.

These are some of the areas that grips may need to understand in the future.

Future Tech	Description	Learning resources
AI-powered camera rigs	AI tools that automate camera movement, adjust positioning, and improve precision. Automatically calculating intermediate key frames for movement.	Online courses from film schools or workshops, equipment manufacturers' training programmes.
Drone technology for camera support	Drones equipped with cameras to capture aerial shots without traditional rigs.	Drone certification courses, manufacturer guides.
Virtual production platforms	Digital environments that allow camera and rigging setups to be pre-visualised before physical filming.	Courses on virtual production from industry platforms like Unreal Engine or webinars from film tech conferences.
3D printing for custom rig parts	Technology allowing grips to design and print custom camera mounts or supports on set.	Online tutorials on 3D modelling and printing, or design software forums.
Health and Safety planning	Working as a H&S advisor highlighting potential risks and recommending references and locations to find solutions.	Online large language models.
Smart sensors for safety monitoring	Sensors that track equipment and ensure safe rigging, providing real-time alerts on set.	Manufacturer manuals, technical training workshops, and safety certification courses.
Live Event Technologies	Automated hoist & winch systems, touring and fast assembly aluminium trussing structures.	National Event Lifting Training. NRC national rigging certificate.
Robotics	Robotic arms, dollies and pedestals with automated camera mounting and positioning solutions.	Bow Robotics software and development platforms.
3D Volumetric Capture Technologies	Capturing live performances directly into a 3D pixel format and 3D mesh based formats, allowing re-positioning of cameras after the recording has been made.	Understanding of Gaussian Splatt techniques and Mesh based volumetric capture technologies, many good scientific papers on the subjects.

What AI tools can I use right now? – Efficiency & workflow opportunities

Pre-production

Asset tracking and resource allocation: AI tools could automatically allocate resources by combining shooting schedules with predicted equipment needs, streamlining planning.

Tech-vis and simulation: AI could simulate rigging challenges, calculate lifting loads, and predict power consumption, helping teams plan more effectively.

Script analysis and risk assessment: AI can analyse scripts and location notes, cross-referencing them with risk assessments to ensure a safe and well-planned shoot.

Virtual production: AI could help pre-visualise digital environments, allowing grips to plan rigging setups in virtual space before filming.

Production

Real-time lighting adjustments: AI could monitor footage and adjust lighting settings to maintain consistency as camera angles or lighting conditions change.

Automated rigging calculations: AI could assist in automating load calculations for rigging and trussing, ensuring accuracy and safety.

Relighting in post-production: AI could enable relighting of film sets in post-production, enhancing lighting without reshoots or costly VFX.

Smart safety sensors: AI-driven sensors can monitor equipment and alert crews to potential safety hazards in real-time.

Post production

Automatic meta data capture: AI-driven sensors and data capture devices can help capture data on-set for use later on in post production workflows. AI is able to help interpret video content and automatically take note of settings used.