



MARCUS CHIU

Technical Administrator

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PROFILE

Accomplished systems administrator with over 19 years of experience with Microsoft Active Directory in an academic environment. Expert-level experience independently deploying and maintaining VMware ESXi virtual environments. Extensive experience in backup and disaster recovery procedures. Experience installing, deploying, and maintaining ESRI ArcGIS server and client components.

EDUCATION

- B.A., Geography (GIS emphasis), San Diego State University, San Diego CA USA, 1997.
- GIS Certificate, San Diego State University, San Diego CA USA, 1997.

PROFESSIONAL POSITIONS

- Technical Administrator, Geography Department, San Diego State University, San Diego CA USA, 2001-present.
- Webmaster/Data Analyst, SDSU Research Foundation, San Diego State University, San Diego CA USA, 2012-present.
- Project Data Manager, SDSU Research Foundation, San Diego State University, San Diego CA USA, 2014-2018.
- Programming Manager, Social Science Research Lab, San Diego State University, San Diego CA USA, 1997-2001.

AWARDS AND HONORS

- Awardee: 2017 SDSU Zuma Award (Team Effort).
- Nominee: 2008 SDSU Presidential Staff Excellence Award (Team Effort).

RESEARCH ACTIVITY

- Contributor: National Science Foundation “CNH-L: People, Place, and Payments in Complex Human-Environment Systems” (BCS 1826839; PI: Li An). Total budget \$1,450,000. 2018-2023.
- Contributor: Judicial Council of California “An Evaluation of the Video Remote Interpreting (VRI) Pilot Program” (1033016; PI: Sheldon Zhang). Total budget \$286,079. 2017-2018.
- Contributor: National Science Foundation “Conference: Agent-Based Modeling 2017: Agent-Based Models in the Social, Human-Environment, and Life Sciences” (BCS-1638446; PI: Li An). Total budget \$94,996. 2016-2017.
- Contributor: California Department of Corrections “A Descriptive Analysis of Community-Based Programs for California Parolees” (5600004336; PI: Sheldon Zhang). Total budget \$700,000. 2014-2016.
- Contributor: National Science Foundation “CNH: Impacts of Ecosystem Service Payments in Coupled Natural and Human Systems” (DEB-1212183; PI: Li An). Total budget \$1,299,917. 2012-2016.

SERVICE

- Member: SDSU Emergency Operations Center (2019-present).
- Interview Panel: Administrative Support Coordinator (2017).
- Interview Panel: Administrative Support Assistant (2017).
- Interview Panel: Equipment Systems Specialist (2006).
- Interview Panel: Operating Systems Analyst (2005).

PAPER PRESENTATIONS

- Coulter, L., A. Loerch, D. Anunciado, **M. Chiu**, D. McKinsey, D. Stow, and G. McNew (2017). "Evaluation of Drone Imagery to Support GIS Mapping for SDSU Campus". ESRI International Users Conference, San Diego CA USA, July 2017.

CONFERENCES AND TRAININGS

- Online Training: PostGreSQL Database Fundamentals (Skillssoft; MAR2020).
- Online Training: User Workflows for ArcGIS Online Organizations (ESRI; MAR2020).
- Online Training: Managing Geospatial Data in ArcGIS (ESRI; FEB2020).
- Online Training: Field Data Collection and Management (ESRI; FEB2020).
- Online Training: Configuring Web Apps using Web AppBuilder (ESRI; JAN2020).
- Online Training: Creating Python Scripts for ArcGIS (ESRI; JAN2020).
- Online Training: ArcGIS Enterprise: Administration Workflows (ESRI; OCT2019).
- Workshop Attendee: PowerShell + DevOps Global Summit (Bellevue WA USA; MAY2019).
- Conference Attendee: Microsoft Tech Summit (San Francisco CA USA; MAR2018).

- Online Training: Deploying and Maintaining a Multiuser Geodatabase (ESRI; MAR2018).
- Online Training: ArcGIS Enterprise: Configuring a Base Deployment (ESRI; FEB2018).
- Online Training: Introduction to ArcGIS Pro for GIS Professionals (ESRI; JUN2017).
- Workshop Attendee: DARTDrones UAS Pilot Certification Course (Irvine CA USA; DEC2016).
- Online Training: PMBOK Project Management Fundamentals (Skillsoft; OCT2016).
- Conference Attendee: Microsoft Windows Higher Education Conference (Bellevue WA USA; OCT2015).
- Conference Attendee: VMware Users Group Conference (San Diego CA USA; APR2014).
- Conference Attendee: Systems Center Universe (Houston TX USA; JAN2014).
- Seminar Attendee: Microsoft IT Camp Virtualization (San Diego CA USA; NOV2013).
- Online Training: VMware vSphere Install, Configure, Manage (New Horizons Learning Group; JUN2013).
- Seminar Attendee: Microsoft/Dell Windows 8 (San Diego CA USA; MAY2013).
- Conference Attendee: VMWare Users Group Conference (San Diego CA USA; APR2013).
- Conference Attendee: Interop Las Vegas (Las Vegas NV USA; MAY2012).
- Workshop Attendee: SANS Institute Cyber Security Training (San Diego CA USA; AUG2006).
- Training: ESRI ArcIMS Administration (Redlands CA USA; JUL2002).
- Training: ESRI Introduction to ArcIMS (Redlands CA USA; JUL2002).
- Training: ESRI System Architecture Design for GIS (Redlands CA USA; NOV2001).
- Training: ESRI Introduction to ArcGIS 2 (Redlands CA USA; OCT2001).
- Training: ESRI Introduction to ArcGIS 1 (Redlands CA USA; OCT2001).
- Conference Attendee: ESRI International User Conference (San Diego CA USA; 1997, 1998, 2001-2005, 2007-2018).

PROFESSIONAL EXPERIENCE

Systems Administration

- Under limited supervision, independently install, evaluate, test, and maintain computer server hardware (Apple PowerPC- and Intel-based servers and storage systems; Dell PowerEdge servers and PowerVault storage/archive systems; other proprietary systems as acquired).
- Analyze internal network to maintain a reliable and secure infrastructure.
- Install, test, maintain, and monitor server operating systems (Apple macOS, Microsoft Windows (XP, Vista, 7, 8, 10, Server 2003, Server 2008, Server 2012R2, Server 2016, Server 2019, Hyper-V Server 2008, Hyper-V Server 2012), Sun/Oracle Solaris, Ubuntu, CentOS, OpenSUSE, VMware ESXi) to ensure a stable, efficient, and optimized overall system for all users.
- Monitor and maintain Microsoft Active Directory infrastructure to manage users and computers, enforce password policies, and determine access control for domain resources using AD Group Policy.
- Install, operate, and maintain administration/monitoring/inventory software on servers (McAfee ePO Anti-Virus/Anti-Spyware/Anti-Malware security management software, Novell Zenworks Patch Management server client, VMware ESXi Hypervisor Administration client, Symantec Ghost imaging software, and other proprietary systems).

- Operate and monitor cloud-based administration/monitoring software (Microsoft Intune, Microsoft Defender Advanced Threat Protection, Microsoft Defender Security Center, Qualys Vulnerability Management, Jamf Pro).
- Automate and secure Active Directory functions using Group Policies.
- Ensure computing resources have the most up-to-date security updates and patches.
- Design, implement and provision a fiber-connected storage area network (SAN); configure and maintain fabric zones and storage pools within SAN.
- Secure sensitive data and configure access control lists appropriately; encrypt data when necessary.
- Design and implement disaster recovery procedures.
- Monitor network infrastructure to ensure reliable connections and maximum performance.
- Initiate and monitor ServiceNow ticketing and support system.
- Plan, implement, and support systems security and network security within the department's infrastructure.
- Develop, implement, update, and enforce department and campus-wide security policies in accordance with SDSU Information Security Plan.
- Conduct periodic evaluations of current systems and proactively recommend future upgrade options to maintain a state-of-the-art facility.
- Evaluate and integrate new technologies into existing systems.
- Monitor and optimize file system architecture, performing backups, archiving non-current data, and restructuring system when necessary.
- Identify and correct system/application failures in a timely manner.
- Manage disk space and printer quotas.
- Develop programs/scripts for system automation.
- Install, update, and test master operating system image (including various GIS, image processing, statistical, modelling, design, and programming packages) for deployment to multiple computer labs.
- Deploy updated system image to all lab computers using Symantec Ghost server software.
- Create and maintain user accounts within Active Directory and Oracle Solaris system.
- Back up and recover project-related data.
- Design, test, and implement server rack infrastructure, including power redundancy (UPS), power distribution (PDU), cooling, networking, cable management, physical security, and environmental safety.

GIS Server Administration

- Design, install, test, optimize, and monitor ESRI ArcGIS Enterprise stack consisting of ArcGIS Server, Portal for ArcGIS, Image Server for ArcGIS, GeoEvent Server for ArcGIS, Feature Analytics Server for ArcGIS, Datastore for ArcGIS, and a relational spatial database (Microsoft SQL Server, PostgreSQL)
- Provide and ensure persistent, reliable connections between ArcGIS Enterprise system and clients running ArcGIS desktop software (Desktop and Pro).
- Monitor, maintain, and update campus-wide GIS serving multiple campus entities (Facilities Planning, Public Safety, Telecommunications and Network Services).
- Ensure backup/disaster recovery plan for campus-wide GIS is tested and functioning properly.

- Maintain communications with all stakeholders within campus-wide GIS project regarding system status, downtime, and availability.

Database Administration

- Ensure relational database integrity (Microsoft SQL Server, PostgreSQL)
- Implement backup and disaster recovery strategy for database hosts.

IT Consultation/Support

- Provide technical consultation and support to all faculty, staff, and students for all hardware, operating systems, and software application packages used within the department.
- Assist non-departmental entities upon request and with supervisor approval; support is provided via telephone, email, or in-person.
- Install, configure, test, and maintain lab workstations and all faculty, staff, and graduate student computers.
- Develop and implement procedures to prepare lab workstations for class and lab work.
- Provide recommendations and price quotes to users for the procurement of hardware and software, taking into account specific infrastructure, group, and project needs.
- Support and consult with users regarding typical use and functionality of various software packages such as GIS (ArcGIS, TerrSet), image processing (Envi, IMAGINE), and modeling; maintain currency with these software packages.
- Troubleshoot general computing issues related to standard software packages, such as e-mail, word-processing, printing, file accessibility, and hardware conflicts.
- Provide connectivity support for GPS/GNSS data transfer between field units and storage system.
- Interact with users to identify and help resolve data and third party software problems.
- Resolve compatibility issues regarding software-to-hardware requirements and application-to-project requirements.
- Coordinate GIS software distribution to other campus departments, colleges, and entities; support GIS and image processing software across campus.
- Administer Adobe Creative Cloud licensing throughout department.
- Provide software license assistance to all department users with various software packages (ESRI ArcGIS, ERDAS IMAGINE, ENVI, Trimble eCognition, Agisoft Metashape, Idrisi TerrSet, SPSS, SAS, Matlab, Nvivo, Tableau, VMware Fusion).
- Assist with backups of thesis, class, and other non-project data, suggesting alternative methods of redundancy (external HD, cloud storage, USB flash) as appropriate.
- Provide support, including hardware and software recommendations, to funded projects.
- Instruct users in the most up-to-date methods of securing and protecting computing resources.
- Advise users on the acquisition, deployment, and maintenance of components and peripherals (internal and external drives, printers, GPS/GNSS, GPU, displays, docking and connectivity solutions).
- Consult with other campus technical personnel to resolve hardware and software problems using available resources.
- Provide training and personal coaching in the use of Smart Classroom equipment.

Data Management

- Configure file servers for optimum efficiency, considering unique requirements of geospatial (vector/raster/tabular) data.

- Ensure integrity of department file server backups (both on- and off-site).
- Obtain and organize project data.
- Ensure project data compliance with project requirements regarding data security and integrity.
- Perform data integration and manipulation.

Website Creation and Maintenance

- Design, program, and maintain various project websites using HTML and CSS.
- Upload and update project websites using tools such as Dreamweaver, SmarTTY, MobaXTerm, and FileZilla.
- Install, configure, and secure WordPress back-end software.
- Design and populate project WordPress sites.
- Edit and customize WordPress plugins.
- Continuously maintain and update WordPress instances as well as any associated underlying MySQL database(s).

Specialized Applications Programming

- Programmed finalized project questionnaire using Sawtooth WinCATI programming interface.
- Converted and transferred telephone sample into WinCATI system.
- Prepared data dictionary for each project.
- Tested accuracy, usability, and readability of programmed questionnaires prior to project deployment.
- Deployed each project for use by data collection staff.
- Monitored daily progress, taking random samples from data file to ensure accuracy.
- Exported and converted data file at conclusion of data collection.

Data Collection and Processing

- Supervised telephone interviewers.
- Performed quality-control procedures.
- Maintained telephone interviewer scheduling.
- Conducted telephone interviewer briefings.
- Assisted with telephone interviewer trainings.
- Cleaned and verified data file converted from WinCATI system.
- Produced frequency and cross-tabulation results from clean data file to ensure accuracy of collected data.
- Supervised data processing staff.
- Reviewed and edited interim project documents, including frequency tables, data charts, and final reports.
- Prepared final documents for delivery to client(s).

Other Miscellaneous Functions

- Supervise year-round student assistants specifically assigned to provide technical support.
- Attend various campus IT meetings to remain current with campus-wide policies and procedures.
- Disseminate relevant systems and technical information to all appropriate users in a timely and concise manner.
- Provide department-wide equipment inventory every five years.
- Act as backup department inventory clerk.

- Purchase technical equipment and supplies as needed (<\$5000).
- Attend relevant conferences, workshops, and trainings to remain current with present and developing technologies.
- Document technical procedures; develop and maintain documentation on department infrastructure; prepare documentation for users and technical staff when upgrades or changes are required.
- Assume Lead role in absence of Technical Manager.
- Process time reports by project.
- Maintain inventory of supplies and materials, including but not limited to backup media, printer supplies, and other spare computer parts.

SKILLS

- Extensive technical aptitude with the ability to learn new systems and technology quickly.
- Programming and scripting skills in various languages (Python, VBScript, HTML, CSS, *nix shell, PowerShell, DOS batch file).
- Exemplary written and oral communications skills.
- Highly proficient in explaining technical issues in non-technical terms.
- Strong problem-solving and troubleshooting skills.
- Well-organized and detail-oriented.
- Ability to devise consistent, accessible documentation.
- Demonstrated ability to work well as part of a team.
- Proven supervisory experience.

CERTIFICATIONS AND CONTINUING EDUCATION

- Certification: FAA Part 107 Drone Pilot (2017).
- Certification: CompTIA A+ (2000).
- Vocational class: CompTIA Network+ Certification Preparation (SDCCD; 2006).
- Vocational class: PHP/MySQL Fundamentals (SDCCD; 2005).
- Audited class: CS310 "Data Structures" (SDSU; 2004).
- Vocational class: Implementing, Managing, and Maintaining a Microsoft Windows Server 2003 Network Infrastructure: Network Services (SDCCD; 2003).
- Vocational class: Implementing a Microsoft Windows Server 2003 Network Infrastructure: Network Hosts (SDCCD; 2003).
- Vocational class: Maintaining a Microsoft Windows Server 2003 Environment (SDCCD; 2003).
- Vocational class: Managing a Microsoft Windows Server 2003 Environment (SDCCD; 2003).
- Vocational class: Installing, Configuring, and Administering Microsoft Windows XP Professional (SDCCD; 2003).
- Vocational class: Implementing Microsoft Windows 2000 Professional and Server" (SDCCD; 2003).
- Audited class: CS470 "UNIX System Administration" (SDSU; 2002).